

To: Allen, HarryL[Allen.HarryL@epa.gov]; CASTRO, KEVIN[Castro.Kevin@epa.gov]; Trevor_Anderson@oes.ca.gov[Trevor_Anderson@oes.ca.gov]; Temple, Celeste[Temple.Celeste@epa.gov]; Irizarry, Gilberto[Irizarry.Gilberto@epa.gov]; Guria, Peter[Guria.Peter@epa.gov]; Manzanilla, Enrique[Manzanilla.Enrique@epa.gov]; Richman, Lance[Richman.Lance@epa.gov]; Lawrence, Kathryn[Lawrence.Kathryn@epa.gov]; Benson, Craig[Benson.Craig@epa.gov]; Lee, Barbara[Lee.Barbara@epa.gov]; MUSANTE, JASON[Musante.Jason@epa.gov]; Vianu, Libby[Vianu.Libby@epa.gov]; Paul.Penn@calepa.ca.gov[Paul.Penn@calepa.ca.gov]; gbaker1@dtsc.ca.gov[gbaker1@dtsc.ca.gov]; Reynolds, Rebekah[Reynolds.Rebekah@epa.gov]; Wilson, Kristine[WILSON.KRISTINE@EPA.GOV]; joseph.johns@USDOJ.GOV[joseph.johns@USDOJ.GOV]; Angela.M.Vallier@uscg.mil[Angela.M.Vallier@uscg.mil]; jreeb@ceooem.lacounty.gov[jreeb@ceooem.lacounty.gov]; reuben.martinez@cityofmaywood.org[reuben.martinez@cityofmaywood.org]; sprieto@ph.lacounty.gov[sprieto@ph.lacounty.gov]; bill.jones@fire.lacounty.gov[bill.jones@fire.lacounty.gov]; Tony.Payne@fire.lacounty.gov[Tony.Payne@fire.lacounty.gov]; sfogleman@ph.lacounty.gov[sfogleman@ph.lacounty.gov]; jeremiah.j.winston@uscg.mil[jeremiah.j.winston@uscg.mil]

From: FruitlandMgFire@epaosc.org

Sent: Sun 6/19/2016 11:58:15 PM

Subject: Pollution Report # (Initial)1 Fruitland Magnesium Fire Incident - Emergency Response and Use of Delegated Procurement Authority

MAIL RECEIVED: Sun 6/19/2016 11:58:21 PM

[FruitlandMgFire_polrep_1.htm](#)

[FruitlandMgFire_polrep_1_20160614_234816.jpg](#)

[FruitlandMgFire_polrep_1_20160614_173935.jpg](#)

[FruitlandMgFire_polrep_1_20160614_234739.jpg](#)

Attached is a Pollution Report (POLREP) regarding:

USEPA Region IX

Fruitland Magnesium Fire Incident

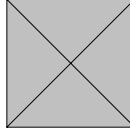
3570 Fruitland Ave., Maywood, CA

To view this POLREP, please open the attachment.

For additional information regarding this site,
please visit the website by clicking on this link:

<http://epaosc.org/FruitlandMgFire>

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Fruitland Magnesium **Fire** Incident - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IX

Subject: **POLREP #1**
Emergency Response and Use of Delegated Procurement Authority
Fruitland Magnesium **Fire** Incident
Maywood, CA
Latitude: 33.9961640 Longitude: -118.2011630

To: Harry Allen, EPA Region 9
Trevor Anderson, Cal Emergency Management Agency
Celeste Temple, EPA Region 9
Tito Irizarry, EPA Office of Emergency Management
Peter Guria, EPA Region 9
Enrique Manzanilla, EPA Region 9
Lance Richman, EPA Region 9
Kathryn Lawrence, Preparedness and Prevention Section
Craig Benson, EPA Region 9
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Jason Musante, EPA Region 9
Libby Vianu, ATSDR
Paul Penn, CALEPA
George Baker, DTSC
Rebekah Reynolds, EPA
Kristine Wilson, EPA CID
Joseph Johns, USAO
Angela Vallier, USCG IMAT
Jeff Reeb, LACo OEM
Ruben Martinez, City of **Maywood**
Silvia Prieto, LACoPH
William Jones, LACoFD HHMD
Tony Payne, LACoFD HHMD
Stella Fogleman, LACoPH

JJ Winston, USCG PST

From: Robert Wise, OSC

Date: 6/18/2016

Reporting Period: 06/14-18/2016

1. Introduction

1.1 Background

Site Number:		Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	6/14/2016	Start Date:	6/14/2016
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Magnesium fire at a metal recycling and stripping company.

1.1.2 Site Description

On June 14, 2016 at approximately 0200 hours, a fire started at Panda International Trading (PIT) located at 3570 Fruitland Ave., Maywood, CA. Fruitland Ave. is a commercial/light manufacturing district. The facility holds

two businesses, PIT and SOKOR Metals. PIT is a scrap metal yard that send scrap metal out in bulk for recovery. SOKOR is a precious metals recovery operation that recovers precious metals from circuit boards and other electronics. The site originally consisted of several buildings, but all were destroyed in the fire.

During the fire approximately 300 people on [REDACTED] were evacuated.

The evacuation was lifted homes on the south side of [REDACTED] on June 16, 2016, by LACoFD. The homes of the north side of [REDACTED] that borders the site have remained evacuated due to the presence of ash throughout the properties. Approximately 31 families remain evacuated and are staying at a Red Cross Shelter.

1.1.2.1 Location

The site is located at 3570 Fruitland Ave., Maywood, Los Angeles Co., CA 90702 (Latitude: 33.9961640 Longitude: -118.2011630). On the southern fence line of the site is a residential neighborhood of single family homes. To the north, east and west is are light industry.

1.1.2.2 Description of Threat

At the PIT site there is approximately 10,000 pounds of magnesium. On the morning of June 14, 2016, during firefighting operations, the magnesium exploded twice, showering Fruitland Ave. and the adjacent residential neighborhood with chunks of burning magnesium. Due to the hazards associated with fighting this fire, the Los Angeles County Fire Department (LACoFD) has adopted a defensive firefighting mode and is allowing the fire to burn. EPA assistance was requested by LACoFD Health Hazmat Division (HHMD). Upon arriving EPA was tasked with providing air surveillance for the fire. OSC Wise delegated the EPA START contractor with this task.

At 1700 hours on June 16, 2016, EPA was referred the site by LACoFD Health Hazmat Division and OSC R. Wise initiated a CERCLA removal action using his delegated procurement authority. EPA is in a Unified Command with LACo Public Health (LACoPH). The site meets the meets the following criteria pursuant to 40 CFR 300.415(b)(2) of the NCP:

- (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
- (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;
- (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
- (vi) Threat of fire or explosion;
- (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and
- (viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On June 14, 2016, EPA initiated an air surveillance program. The air monitoring parameters included real-time instruments for volatile organic compounds (VOCs), carbon monoxide (CO), lower explosive limit (LEL); percent oxygen, hydrogen sulfide (H₂S), hydrogen cyanide (HCN), and total particulates. The air sampling parameters include total metals and HCN. This air surveillance program was kept in place until the morning of July 16, 2016, when the fire was extinguished. The monitoring data for all parameters other than total particulates was within background concentrations. The total particulates concentrations were up to 11 mg/m³ in heavy smoke. The air sampling data for June 14 and documented the presence of the following metals in low concentrations (2-5 orders of magnitude below the OSHA PEL): aluminum, arsenic, chrome, cadmium, copper, lead, vanadium, and zinc. The data for June 16 is pending.

On June 15, 2016, the START at the direction of the OSC collected four ash samples. The samples were collected from [REDACTED] of Fruitland Ave. and [REDACTED]; the perimeter of the site and to residences on [REDACTED]

On July 16, 2016, the START contractor conducted a preliminary XRF analysis of the ash that documented elevated concentrations of arsenic, chrome, copper, lead and zinc. On June 17, 2016, the samples were submitted for laboratory analysis for total metals, VOCs, semi-VOCs and dioxins/furans. The total metals data was available in the evening of June 17, 2016 confirmed elevated concentrations of metals including copper and zinc. The remaining analytical parameters are pending.

On June 15, 2016, EPA in cooperation with the Unified Command partners, HHMD and LACoPH initiated a program of indoor air sampling to determine if contaminated ash had entered the homes that bordered the southern perimeter of the site. The program is an activity based sampling in which a fan is placed in the room to rouse the dust (simulating people walking in the room) and two samples for total metals are then collected. One sampler is placed at the breathing zone for children and the other at the breathing zone for adults. The sampling takes place of a four hour period. The analysis data is pending. The first sample location was from the home that is directly behind the burning magnesium pile in a room where the windows were blown out. The next two samples were collected from homes bordering the southern border of the site in which the windows are in-tact. The sampling program is on-going, but is slow due to the fact that the homes are evacuated and getting signed access has been difficult.

On June 17, 2016, the EPA team made a level B entry into the site to conduct air monitoring. Monitoring was conducted using a Multi-Rae Pro multi-gas meter, a Ludlum Model 19 gamma dose rate meter and a Lumex mercury meter. No airborne contaminants were detected. The site has been downgraded to a level C site.

On June 18, 2015, EPA, DTSC and HHMD begun assessments of the exterior of the evacuated properties and it was completed on June 19, 2016. The assessments determined that every home on the [REDACTED] that has been evacuated have ash contamination.

2. Current Activities

2.1.1 Narrative

OSC Wise has mobilized to an ongoing fire in Maywood, CA on June 14, 2016. The fire started early on the morning of June 14, 2016 at 3570 Fruitland Ave., Maywood CA. This address included a scrap metal export business and a precious metals recovery business. The fire ignited approximately 10,000 pounds of magnesium ingots stored at the scrap metal exporter. During firefighting operations, the magnesium exploded several times after contact with the firefighting water. Approximately 300 people were evacuated from the [REDACTED], Maywood. Approximately 45 people remain evacuated. No injuries are reported but the South Coast Air Quality Management District (AQMD) has issued a smoke advisory and are assessing possible toxic concerns and responding to odor complaints. The LACoFD prevented the fire from spreading to any other businesses and homes, while allowing the magnesium to fully combust. HHMD on scene and requested assistance from Region 9 in handling contaminated firefighting water and with air surveillance.

The fire was extinguished by June 16, 2016, but ash is strewn throughout the neighborhood, on surfaces of buildings, cars as well as in yards and parking areas. Sampling by EPA have documented that the ash contains elevated levels of lead, manganese, copper and zinc. Homes on [REDACTED] have been reoccupied but homes [REDACTED], adjacent to the facility, remain evacuated pending safe occupancy determinations by LA County health officials. A total of 12 properties remain evacuated, some of which have multi-family dwellings on them.

The Unified Command has requested EPA to conduct air sampling inside homes situated on these 12 parcels and that effort is began on June 16, 2016. Air samples will be collected and analyzed for metals only. Data will be provided to health officials for re-occupancy determinations. In addition, EPA collected ash samples throughout the area yesterday. Locations included a parking lot, the facility

perimeter and the surface of 2 residences. These samples were analyzed for metals, VOCS, semi-VOCS and dioxins/furans and results are pending. Results over CA regulated waste levels (TTLIC) may require physical removal and disposal. An entry team plans on entering the facility boundary to characterize the burn area tomorrow.

Unified Command at the Incident has shifted from LA County Fire and Sheriff to EPA Region 9, LA County Health and County Health Hazmat, EPA and LACoPH. DTSC ER has begun to coordinate on the Site as well and has tentatively agreed to dispose contaminated firefighting water. Potentially Responsible Parties have been issued letters of Federal Interest the Region's Civil Investigators and attorney advisor are reviewing the case as well.

On June 16, 2016 OSC Robert Wise utilized his delegated procurement authority to dispatch the ERRS contractor to conduct emergency removal action. EPA is participating in an Unified Command with HHMD and LACoPH.

2.1.2 Response Actions to Date

June 14, 2016

Agencies Present: EPA, LACoFD, LACoPH, Vernon Fire Department (VFD), Vernon Police Department (VPD), Los Angeles Co. Sheriffs (LACoSD) and AQMD

Contractors Present: START

EPA mobilized to the scene. The LACoFD was monitoring the fire, but only conducting defensive operations due to the presence of the magnesium. OSC Wise deployed the START contractor. The START contractor began air surveillance operations as described in Section 1.1.3. The AQMD was also collection air samples. EPA integrated into the Unified Command

June 15, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD,

LACoSD and AQMD			
Contractors Present: START			
LACoFD is continuing fire fighting operations. The START and AQMD continued air surveillance. The START collected ash samples to characterize it. See Section 1.1.3 for more information.			
June 16, 2016			
Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, LACoSD and AQMD			
Contractors Present: START, ERRS, United Pumping (LACoFD and ERRS sub), PES (VFD)			
LACoFD is completed fire fighting operations. The START and SCAQMD continued air surveillance. The START collected ash samples conducted field characterization of the ash samples using the XRF. See Section 1.1.3 for more information.			
The LACoFD conducted a gross decontamination of the homes along [REDACTED] using fire hoses. They contracted with Patriot Environment Services (PES) to collect the water. The VFD conducted similar operations of the businesses situated downwind of the facility. VFD hired United Pumping Services to collect the water.			
Based on the data that the ash meets the criteria for California toxic hazardous waste, OSC Wise used his delegated procurement authority to dispatch the ERRS contractor. The ERRS contractor entered into a subcontract with United Pumping who was already on-site to clean the streets and sidewalks in the command post area (Fruitland Ave. [REDACTED] and approximately 100 meter of [REDACTED] Fruitland Ave. The ERRS contractor worked throughout the night. United Pumping placed a 22,000 gallon water collection tank in front of the facility to store the decontamination water that they and PES had generated. OSC Wise negotiated with DTSC Emergency Response for the State to pay for the disposal of the water.			
The START contractor began to conducted activity based			

sampling in the impacted homes. See QASP in the documents section for details. One home was sampled.

OSC Wise met with the Potentially Responsible Party (PRP) and their insurance company. Coverage information is pending.

OSC Wise requested assistance from the Pacific Strike Team (PST). They will be on-site on Saturday. They will function as the Site Safety Officer (SSO) and the Planning Section Chief.

June 17, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, and LACoSD

Contractors Present: START, ERRS, United Pumping (ERRS sub)

The EPA ERRS contractor, subcontractor United Pumping continued to clean the sidewalks along Fruitland. United Pumping also began to conduct water removal operations from the 3570 Fruitland site location to prevent off-site migration of contaminated fire suppression water. United Pumping also began to clean the drainage culvert boxes on Fruitland. OSC Wise stopped their operations because they conducting an improper permit confined space entry. After discussion of this issue with the ERRS Response Manager (RM), OSC Wise directed the RM to dismiss United Pumping and replace them with Double Barrel Environmental Services, a regular ERRS teaming sub.

The START continued indoor air sampling in the homes. Two homes were sampled.

The START contractor was appointed as the head of the Sampling Group under the Unified Command. The ERRS RM will serve as the Operations Section Chief until replaced by OSC Jason Musante on Monday.

June 18, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, and LACoSD

Contractors Present: START, ERRS, Double Barrel (ERRS Team Sub)			
The ERRS contractor continued to clean areas along Fruitland Ave. of ash. ERRS finished cleaning the drainage culvert boxes.			
The START collected samples from the inside of two homes. The START worked with HHMD personnel to begin the assessment of the home sites for ash and other contaminants from the fire. Six homes were completed. The START set up a geoviewer and SCRIBE for this site.			
OSC Wise deployed ERT and SERAS for arrival on Sunday. One member of the PST arrived on-site. Chief J.J. Winston will act as the Incident Safety Officer. The START is deploying an Certified Industrial Hygienist and air sampling specialist at OSC Wise's request to assist PST.			
2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)			
OSC Wise issued a Notice of Federal Response Action to Mr. Pan on June 15, 2016 notifying him of his liability and requesting he conduct cleanup operations. He replied on June 17, 2016 that he was refusing to conduct the grounds of financial inability.			
2.1.4 Progress Metrics			

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposition</i>

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2.2 Planning Section

2.2.1 Anticipated Activities

Activities for June 19, 2016 will include:

- Cleaning of [REDACTED] and sidewalks between [REDACTED].;
- Gross decontamination of cars parked on [REDACTED] the night of the fire. The car owners will then be provided a voucher to take the car to a car wash for a thorough cleaning.;
- Residential assessments; and
- Sampling of decontamination water tank;

2.2.1.1 Planned Response Activities

Removal operations will include the following:

- Completion of the residential assessments;
- Decontamination of the homes on the [REDACTED].;
- Decontamination of any streets or sidewalks contaminated with ash; and
- Removal of all hazardous substances from the site.

2.2.1.2 Next Steps

The schedule through Thursday of next week is as follows:

Monday:

- Apply Guerilla Snot soil tacifier to site to keep down dust;
- Install roads through debris on-site to allow access to all areas of the site (air surveillance for this activity);
- Finish residential assessments and
- Begin residential decontamination.

Tuesday:

2.3 Logistics Section

2.4 Finance Section

<ul style="list-style-type: none"> Continue residential decontaminations; Conduct a container inventory and sampling on-site; and Explore magnesium removal. <p>Wednesday:</p> <ul style="list-style-type: none"> Continue residential decontaminations; Continue container inventory and sampling and repackage any leaking containers; and Magnesium collection (air surveillance for this activity). <p>Thursday-Friday</p> <ul style="list-style-type: none"> Continue residential decontamination. <p>2.2.2 Issues</p> <p>A Joint Information Center has been set up and EPA does not have adequate representation on-site.</p> <p>LACoPH is serving as the Logistics Section Chief for the Unified Command. The ERRS contractor is handling logistics for EPA.</p> <p>On June 16, 2016, OSC Wise notified Alex Kramer, EPA Contracting Officer that he was utilizing his delegated procurement authority to dispatch the ERRS contractor. A START TDD has also been opened. On June 18, 2016, OSC Wise requested the ERRS TO be increased to \$685,000 and sent a START TDD amendment raising the ceiling to 380,000.</p>					
Estimated Costs	*Budgeted	Total To	Remaining	%	%
		Date		Remaining	
Extramural Costs					
ERRS - Cleanup Contractor	\$185,000.00	\$0.00	\$185,000.00	0.00%	0.00%
IAGs - PST	\$15,000.00	\$0.00	\$15,000.00	100.00%	100.00%
TAT/START	\$68,341.00	\$34,933.00	\$33,408.00	48.88%	

Intramural Costs				
Total Site Costs	\$268,341	\$84,933.00	\$233,408	86.98%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

The SSO is the PST.

2.5.2 Liaison Officer

The Liaison Officer is being staffed by LACoPH.

2.5.3 Information Officer

An EPA PIO has been requested for deployment, but declined by OPA. A JIC has been staffed up and the lead PIO is LACoPH.

3. Participating Entities

3.1 Unified Command

The Unified Commanders are EPA, LACoFD HHMS and LACoPH.

3.2 Cooperating Agencies

LACoSD, VFD, VPD, SCAQMD, LACoISD; DTSC, EPA CID, City of Maywood, City of Vernon.

4. Personnel On Site

June 14, 2016:

EPA: OSC Wise

START: 5

June 15, 2016:

EPA: OSC Wise

START: 5

June 16-18, 2016

EPA: OSC Wise

START: 4

ERRS: 7

June 19:

EPA: OSC Wise, J. Eckelson (ERT)

SERAS: 2

START: 3

ERRS: 7

5. Definition of Terms

AQMD: South Coast Air Quality Management District

CERCLA: Comprehensive Environmental Response Compensation and Liability Act

CFR: Code of Federal Regulations

Co.: County

DTSC: Department of Toxic Substances

EPA: Environmental Protection Agency

ERRS: Emergency and Rapid Removal Services (EPA Contractor)

ERT: Environmental Response Team

HCN: Hydrogen Cyanide

HHMD: Health Hazardous Materials Division

LACoFD: Los Angeles County Fire Department

LACoPH: Los Angeles County Public Health

LACoSD: Los Angeles County Sheriff's Department

NCP: National Contingency Plan (40 CFR 300)

OSC: On--Scene Coordinator

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PES: Patriot Environmental Services

PRP: Potentially Responsible Party

PST: Pacific Strike Team

PIT: Panda International Trading Co.

RM: Removal Manager

SERAS: Science, Engineering, Response and Analytical Support contractor

SOKOR: SOKOR Metals

START: Superfund Technical Assessment Response Team contractor

TTLC: Total Threshold Limit Concentration

VFD: Vernon Fire Department

VOCs: Volatile Organic Compounds

VPD: Vernon Police Department

XRF: X-Ray Fluorescence Spectrometer

6. Additional sources of information

6.1 Internet location of additional information/report

The website for this site is located www.epaosc.org/FruitlandMgFire.

6.2 Reporting Schedule

The next POLREP will be June 23, 2016.

7. Situational Reference Materials

See the IAPs in Documents Section.







To: Allen, HarryL[Allen.HarryL@epa.gov]; CASTRO, KEVIN[Castro.Kevin@epa.gov]; Trevor_Anderson@oes.ca.gov[Trevor_Anderson@oes.ca.gov]; Temple, Celeste[Temple.Celeste@epa.gov]; Irizarry, Gilberto[Irizarry.Gilberto@epa.gov]; Guria, Peter[Guria.Peter@epa.gov]; Manzanilla, Enrique[Manzanilla.Enrique@epa.gov]; Richman, Lance[Richman.Lance@epa.gov]; Lawrence, Kathryn[Lawrence.Kathryn@epa.gov]; Benson, Craig[Benson.Craig@epa.gov]; Lee, Barbara[Lee.Barbara@epa.gov]; MUSANTE, JASON[Musante.Jason@epa.gov]; Vianu, Libby[Vianu.Libby@epa.gov]; Paul.Penn@calepa.ca.gov[Paul.Penn@calepa.ca.gov]; gbaker1@dtsc.ca.gov[gbaker1@dtsc.ca.gov]; Reynolds, Rebekah[Reynolds.Rebekah@epa.gov]; Wilson, Kristine[WILSON.KRISTINE@EPA.GOV]; joseph.johns@USDOJ.GOV[joseph.johns@USDOJ.GOV]; Angela.M.Vallier@uscg.mil[Angela.M.Vallier@uscg.mil]; jreeb@ceooem.lacounty.gov[jreeb@ceooem.lacounty.gov]; reuben.martinez@cityofmaywood.org[reuben.martinez@cityofmaywood.org]; sprieto@ph.lacounty.gov[sprieto@ph.lacounty.gov]; bill.jones@fire.lacounty.gov[bill.jones@fire.lacounty.gov]; Tony.Payne@fire.lacounty.gov[Tony.Payne@fire.lacounty.gov]; sfogleman@ph.lacounty.gov[sfogleman@ph.lacounty.gov]; jeremiah.j.winston@uscg.mil[jeremiah.j.winston@uscg.mil]

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USEPA Region IX

Fruitland Magnesium Fire Incident

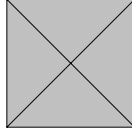
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U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Fruitland Magnesium **Fire** Incident - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IX

Subject: **POLREP #1**
Emergency Response and Use of Delegated Procurement Authority
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Maywood, CA
Latitude: 33.9961640 Longitude: -118.2011630

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Stella Fogleman, LACoPH

JJ Winston, USCG PST

From: Robert Wise, OSC

Date: 6/18/2016

Reporting Period: 06/14-18/2016

1. Introduction

1.1 Background

Site Number:		Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	6/14/2016	Start Date:	6/14/2016
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Magnesium fire at a metal recycling and stripping company.

1.1.2 Site Description

On June 14, 2016 at approximately 0200 hours, a fire started at Panda International Trading (PIT) located at 3570 Fruitland Ave., Maywood, CA. Fruitland Ave. is a commercial/light manufacturing district. The facility holds

two businesses, PIT and SOKOR Metals. PIT is a scrap metal yard that send scrap metal out in bulk for recovery. SOKOR is a precious metals recovery operation that recovers precious metals from circuit boards and other electronics. The site originally consisted of several buildings, but all were destroyed in the fire.

During the fire approximately 300 people on [REDACTED] were evacuated.

The evacuation was lifted homes on the [REDACTED] on June 16, 2016, by LACoFD. The homes of the [REDACTED] that borders the site have remained evacuated due to the presence of ash throughout the properties. Approximately 31 families remain evacuated and are staying at a Red Cross Shelter.

1.1.2.1 Location

The site is located at 3570 Fruitland Ave., Maywood, Los Angeles Co., CA 90702 (Latitude: 33.9961640 Longitude: -118.2011630). On the southern fence line of the site is a residential neighborhood of single family homes. To the north, east and west is are light industry.

1.1.2.2 Description of Threat

At the PIT site there is approximately 10,000 pounds of magnesium. On the morning of June 14, 2016, during firefighting operations, the magnesium exploded twice, showering Fruitland Ave. and the adjacent residential neighborhood with chunks of burning magnesium. Due to the hazards associated with fighting this fire, the Los Angeles County Fire Department (LACoFD) has adopted a defensive firefighting mode and is allowing the fire to burn. EPA assistance was requested by LACoFD Health Hazmat Division (HHMD). Upon arriving EPA was tasked with providing air surveillance for the fire. OSC Wise delegated the EPA START contractor with this task.

At 1700 hours on June 16, 2016, EPA was referred the site by LACoFD Health Hazmat Division and OSC R. Wise initiated a CERCLA removal action using his delegated procurement authority. EPA is in a Unified Command with LACo Public Health (LACoPH). The site meets the meets the following criteria pursuant to 40 CFR 300.415(b)(2) of the NCP:

- | | | | |
|---|--|--|--|
| <ul style="list-style-type: none"> • (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; • (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release; • (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate; • (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; • (vi) Threat of fire or explosion; • (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and • (viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment. | | | |
|---|--|--|--|

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On June 14, 2016, EPA initiated an air surveillance program. The air monitoring parameters included real-time instruments for volatile organic compounds (VOCs), carbon monoxide (CO), lower explosive limit (LEL); percent oxygen, hydrogen sulfide (H₂S), hydrogen cyanide (HCN), and total particulates. The air sampling parameters include total metals and HCN. This air surveillance program was kept in place until the morning of July 16, 2016, when the fire was extinguished. The monitoring data for all parameters other than total particulates was within background concentrations. The total particulates concentrations were up to 11 mg/m³ in heavy smoke. The air sampling data for June 14 and documented the presence of the following metals in low concentrations (2-5 orders of magnitude below the OSHA PEL): aluminum, arsenic, chrome, cadmium, copper, lead, vanadium, and zinc. The data for June 16 is pending.

On June 15, 2016, the START at the direction of the OSC collected four ash samples. The samples were collected from the northwest corner of Fruitland Ave. [REDACTED]; the perimeter of the site and to residences on the southern perimeter of the site. On July 16, 2016, the START contractor conducted a preliminary XRF analysis of the ash that documented elevated concentrations of arsenic, chrome, copper, lead and zinc. On June 17, 2016, the samples were submitted for laboratory analysis for total metals, VOCs, semi-VOCs and dioxins/furans. The total metals data was available in the evening of June 17, 2016 confirmed elevated concentrations of metals including copper and zinc. The remaining analytical parameters are pending.

On June 15, 2016, EPA in cooperation with the Unified Command partners, HHMD and LACoPH initiated a program of indoor air sampling to determine if contaminated ash had entered the homes that bordered the southern perimeter of the site. The program is an activity based sampling in which a fan is placed in the room to rouse the dust (simulating people walking in the room) and two samples for total metals are then collected. One sampler is placed at the breathing zone for children and the other at the breathing zone for adults. The sampling takes place of a four hour period. The analysis data is pending. The first sample location was from the home that is directly behind the burning magnesium pile in a room where the windows were blown out. The next two samples were collected from homes bordering the southern border of the site in which the windows are in-tact. The sampling program is on-going, but is slow due to the fact that the homes are evacuated and getting signed access has been difficult.

On June 17, 2016, the EPA team made a level B entry into the site to conduct air monitoring. Monitoring was conducted using a Multi-Rae Pro multi-gas meter, a Ludlum Model 19 gamma dose rate meter and a Lumex mercury meter. No airborne contaminants were detected. The site has been downgraded to a level C site.

On June 18, 2015, EPA, DTSC and HHMD begun assessments of the exterior of the evacuated properties and it was completed on June 19, 2016. The assessments determined that every home on the [REDACTED] that has been evacuated have ash contamination.

2. Current Activities

2.1.1 Narrative

OSC Wise has mobilized to an ongoing fire in Maywood, CA on June 14, 2016. The fire started early on the morning of June 14, 2016 at 3570 Fruitland Ave., Maywood CA. This address included a scrap metal export business and a precious metals recovery business. The fire ignited approximately 10,000 pounds of magnesium ingots stored at the scrap metal exporter. During firefighting operations, the magnesium exploded several times after contact with the firefighting water. Approximately 300 people were evacuated from the [REDACTED], Maywood. Approximately 45 people remain evacuated. No injuries are reported but the South Coast Air Quality Management District (AQMD) has issued a smoke advisory and are assessing possible toxic concerns and responding to odor complaints. The LACoFD prevented the fire from spreading to any other businesses and homes, while allowing the magnesium to fully combust. HHMD on scene and requested assistance from Region 9 in handling contaminated firefighting water and with air surveillance.

The fire was extinguished by June 16, 2016, but ash is strewn throughout the neighborhood, on surfaces of buildings, cars as well as in yards and parking areas. Sampling by EPA have documented that the ash contains elevated levels of lead, manganese, copper and zinc. Homes on [REDACTED] have been reoccupied but homes on the north side, adjacent to the facility, remain evacuated pending safe occupancy determinations by LA County health officials. A total of 12 properties remain evacuated, some of which have multi-family dwellings on them.

The Unified Command has requested EPA to conduct air sampling inside homes situated on these 12 parcels and that effort is began on June 16, 2016. Air samples will be collected and analyzed for metals only. Data will be provided to health officials for re-occupancy determinations. In addition, EPA collected ash samples throughout the area yesterday. Locations included a parking lot, the facility

perimeter and the surface of 2 residences. These samples were analyzed for metals, VOCS, semi-VOCS and dioxins/furans and results are pending. Results over CA regulated waste levels (TTL C) may require physical removal and disposal. An entry team plans on entering the facility boundary to characterize the burn area tomorrow.

Unified Command at the Incident has shifted from LA County Fire and Sheriff to EPA Region 9, LA County Health and County Health Hazmat, EPA and LACoPH. DTSC ER has begun to coordinate on the Site as well and has tentatively agreed to dispose contaminated firefighting water. Potentially Responsible Parties have been issued letters of Federal Interest the Region's Civil Investigators and attorney advisor are reviewing the case as well.

On June 16, 2016 OSC Robert Wise utilized his delegated procurement authority to dispatch the ERRS contractor to conduct emergency removal action. EPA is participating in an Unified Command with HHMD and LACoPH.

2.1.2 Response Actions to Date

June 14, 2016

Agencies Present: EPA, LACoFD, LACoPH, Vernon Fire Department (VFD), Vernon Police Department (VPD), Los Angeles Co. Sheriffs (LACoSD) and AQMD

Contractors Present: START

EPA mobilized to the scene. The LACoFD was monitoring the fire, but only conducting defensive operations due to the presence of the magnesium. OSC Wise deployed the START contractor. The START contractor began air surveillance operations as described in Section 1.1.3. The AQMD was also collection air samples. EPA integrated into the Unified Command

June 15, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD,

LACoSD and AQMD			
Contractors Present: START			
LACoFD is continuing fire fighting operations. The START and AQMD continued air surveillance. The START collected ash samples to characterize it. See Section 1.1.3 for more information.			
June 16, 2016			
Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, LACoSD and AQMD			
Contractors Present: START, ERRS, United Pumping (LACoFD and ERRS sub), PES (VFD)			
LACoFD is completed fire fighting operations. The START and SCAQMD continued air surveillance. The START collected ash samples conducted field characterization of the ash samples using the XRF. See Section 1.1.3 for more information.			
The LACoFD conducted a gross decontamination of the homes along [REDACTED] using fire hoses. They contracted with Patriot Environment Services (PES) to collect the water. The VFD conducted similar operations of the businesses situated downwind of the facility. VFD hired United Pumping Services to collect the water.			
Based on the data that the ash meets the criteria for California toxic hazardous waste, OSC Wise used his delegated procurement authority to dispatch the ERRS contractor. The ERRS contractor entered into a subcontract with United Pumping who was already on-site to clean the streets and sidewalks in the command post area (Fruitland Ave. [REDACTED] and approximately 100 meter of [REDACTED] Fruitland Ave. The ERRS contractor worked throughout the night. United Pumping placed a 22,000 gallon water collection tank in front of the facility to store the decontamination water that they and PES had generated. OSC Wise negotiated with DTSC Emergency Response for the State to pay for the disposal of the water.			
The START contractor began to conducted activity based			

sampling in the impacted homes. See QASP in the documents section for details. One home was sampled.

OSC Wise met with the Potentially Responsible Party (PRP) and their insurance company. Coverage information is pending.

OSC Wise requested assistance from the Pacific Strike Team (PST). They will be on-site on Saturday. They will function as the Site Safety Officer (SSO) and the Planning Section Chief.

June 17, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, and LACoSD

Contractors Present: START, ERRS, United Pumping (ERRS sub)

The EPA ERRS contractor, subcontractor United Pumping continued to clean the sidewalks along Fruitland. United Pumping also began to conduct water removal operations from the 3570 Fruitland site location to prevent off-site migration of contaminated fire suppression water. United Pumping also began to clean the drainage culvert boxes on Fruitland. OSC Wise stopped their operations because they conducting an improper permit confined space entry. After discussion of this issue with the ERRS Response Manager (RM), OSC Wise directed the RM to dismiss United Pumping and replace them with Double Barrel Environmental Services, a regular ERRS teaming sub.

The START continued indoor air sampling in the homes. Two homes were sampled.

The START contractor was appointed as the head of the Sampling Group under the Unified Command. The ERRS RM will serve as the Operations Section Chief until replaced by OSC Jason Musante on Monday.

June 18, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, and LACoSD

Contractors Present: START, ERRS, Double Barrel (ERRS Team Sub)			
The ERRS contractor continued to clean areas along Fruitland Ave. of ash. ERRS finished cleaning the drainage culvert boxes.			
The START collected samples from the inside of two homes. The START worked with HHMD personnel to begin the assessment of the home sites for ash and other contaminants from the fire. Six homes were completed. The START set up a geoviewer and SCRIBE for this site.			
OSC Wise deployed ERT and SERAS for arrival on Sunday. One member of the PST arrived on-site. Chief J.J. Winston will act as the Incident Safety Officer. The START is deploying an Certified Industrial Hygienist and air sampling specialist at OSC Wise's request to assist PST.			
2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)			
OSC Wise issued a Notice of Federal Response Action to Mr. Pan on June 15, 2016 notifying him of his liability and requesting he conduct cleanup operations. He replied on June 17, 2016 that he was refusing to conduct the grounds of financial inability.			
2.1.4 Progress Metrics			

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposition</i>

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2.2 Planning Section

2.2.1 Anticipated Activities

Activities for June 19, 2016 will include:

- Cleaning of [REDACTED] and sidewalks [REDACTED];
- Gross decontamination of cars parked on [REDACTED] the night of the fire. The car owners will then be provided a voucher to take the car to a car wash for a thorough cleaning.;
- Residential assessments; and
- Sampling of decontamination water tank;

2.2.1.1 Planned Response Activities

Removal operations will include the following:

- Completion of the residential assessments;
- Decontamination of the homes on the [REDACTED];
- Decontamination of any streets or sidewalks contaminated with ash; and
- Removal of all hazardous substances from the site.

2.2.1.2 Next Steps

The schedule through Thursday of next week is as follows:

Monday:

- Apply Guerilla Snot soil tacifier to site to keep down dust;
- Install roads through debris on-site to allow access to all areas of the site (air surveillance for this activity);
- Finish residential assessments and
- Begin residential decontamination.

Tuesday:

2.3 Logistics Section

2.4 Finance Section

<ul style="list-style-type: none"> Continue residential decontaminations; Conduct a container inventory and sampling on-site; and Explore magnesium removal. <p>Wednesday:</p> <ul style="list-style-type: none"> Continue residential decontaminations; Continue container inventory and sampling and repackage any leaking containers; and Magnesium collection (air surveillance for this activity). <p>Thursday-Friday</p> <ul style="list-style-type: none"> Continue residential decontamination. <p>2.2.2 Issues</p> <p>A Joint Information Center has been set up and EPA does not have adequate representation on-site.</p> <p>LACoPH is serving as the Logistics Section Chief for the Unified Command. The ERRS contractor is handling logistics for EPA.</p> <p>On June 16, 2016, OSC Wise notified Alex Kramer, EPA Contracting Officer that he was utilizing his delegated procurement authority to dispatch the ERRS contractor. A START TDD has also been opened. On June 18, 2016, OSC Wise requested the ERRS TO be increased to \$685,000 and sent a START TDD amendment raising the ceiling to 380,000.</p>					
Estimated Costs	*Budgeted	Total To	Remaining	%	%
		Date		Remaining	
Extramural Costs					
ERRS - Cleanup Contractor	\$185,000.00	\$0.00	\$185,000.00	0.00	0.00%
IAGs - PST	\$15,000.00	\$0.00	\$15,000.00	100.00	100.00%
TAT/START	\$68,341.00	\$34,933.00	\$33,408.00	48.88	48.88%

Intramural Costs				
Total Site Costs	\$268,341	\$84,933.00	\$233,408	86.98%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

The SSO is the PST.

2.5.2 Liaison Officer

The Liaison Officer is being staffed by LACoPH.

2.5.3 Information Officer

An EPA PIO has been requested for deployment, but declined by OPA. A JIC has been staffed up and the lead PIO is LACoPH.

3. Participating Entities

3.1 Unified Command

The Unified Commanders are EPA, LACoFD HHMS and LACoPH.

3.2 Cooperating Agencies

LACoSD, VFD, VPD, SCAQMD, LACoISD; DTSC, EPA CID, City of Maywood, City of Vernon.

4. Personnel On Site

June 14, 2016:

EPA: OSC Wise

START: 5

June 15, 2016:

EPA: OSC Wise

START: 5

June 16-18, 2016

EPA: OSC Wise

START: 4

ERRS: 7

June 19:

EPA: OSC Wise, J. Eckelson (ERT)

SERAS: 2

START: 3

ERRS: 7

5. Definition of Terms

AQMD: South Coast Air Quality Management District

CERCLA: Comprehensive Environmental Response Compensation and Liability Act

CFR: Code of Federal Regulations

Co.: County

DTSC: Department of Toxic Substances

EPA: Environmental Protection Agency

ERRS: Emergency and Rapid Removal Services (EPA Contractor)

ERT: Environmental Response Team

HCN: Hydrogen Cyanide

HHMD: Health Hazardous Materials Division

LACoFD: Los Angeles County Fire Department

LACoPH: Los Angeles County Public Health

LACoSD: Los Angeles County Sheriff's Department

NCP: National Contingency Plan (40 CFR 300)

OSC: On--Scene Coordinator

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PES: Patriot Environmental Services

PRP: Potentially Responsible Party

PST: Pacific Strike Team

PIT: Panda International Trading Co.

RM: Removal Manager

SERAS: Science, Engineering, Response and Analytical Support contractor

SOKOR: SOKOR Metals

START: Superfund Technical Assessment Response Team contractor

TTLC: Total Threshold Limit Concentration

VFD: Vernon Fire Department

VOCs: Volatile Organic Compounds

VPD: Vernon Police Department

XRF: X-Ray Fluorescence Spectrometer

6. Additional sources of information

6.1 Internet location of additional information/report

The website for this site is located www.epaosc.org/FruitlandMgFire.

6.2 Reporting Schedule

The next POLREP will be June 23, 2016.

7. Situational Reference Materials

See the IAPs in Documents Section.







To: Jeffery Reeb[jreeb@ceooem.lacounty.gov]; Angelo Bellomo[abellomo@ph.lacounty.gov]; Meer, Daniel[Meer.Daniel@epa.gov]; Jones, Bill[Bill.Jones@fire.lacounty.gov]; Payne, Tony[Tony.Payne@fire.lacounty.gov]
Cc: Ashu Palta[APalta@ceooem.lacounty.gov]; Loaretta Keith[lkeith@ph.lacounty.gov]; Charlene Contreras[chcontreras@ph.lacounty.gov]; Rogow, Michelle[Rogow.Michelle@epa.gov]; Tresieras, Mario[Mario.Tresieras@fire.lacounty.gov]; Valadez, Pablo[Pablo.Valadez@fire.lacounty.gov]; Jim Bailey [jbailey@willdan.com][jbailey@willdan.com]; Mike Hooper (mhooper@willdan.com)[mhooper@willdan.com]; Stella Fogleman[sfogleman@ph.lacounty.gov]
From: Michael Contreras
Sent: Wed 9/21/2016 5:18:52 PM
Subject: Fruitland ARR
MAIL RECEIVED: Wed 9/21/2016 5:19:31 PM
[LACDPH - Request for Services FFAAR001, After Action Report Facilitatio....pdf](#)

All,

We have completed the acquisition process for a vendor to draft and complete the Fruitland AAR.

The selected vendor is Willdan Homeland Solutions and I have taken the liberty of attaching their proposal to this email.

I do want to note that based on feedback received from the various agencies involved in this, we will be foregoing the Field Responder All Staff* meeting and will only be completing the following workshop elements:

Line Management Workshop- IC's, Section Chiefs, and Key Support Staff

PIO Workshop-

Policy Level Workshop- The attendees for this element will be determined by the Steering Committee at a later date.

(*Willdan will gather the notes and findings from the various internal discussions held by each agency to capture the field elements within the AAR.)

LA County staff will be meeting with the vendor this Friday to review the SOW and establish some base parameters to start the project.

Our critical next step will be to have the AAR Steering Committee meet as soon as possible and establish the strategic direction for the AAR. The vendor will be contacting you via email to establish a time and place. For our friends at the EPA we will offer a distance conferencing option for this kickoff meeting.

I, and the vendor, hope the Steering Committee also establishes a date for the Policy Level meeting so that it may be conducted face-to-face and with plenty of time to allow for travel arrangements to be made.

Michael J. Contreras, MA, MEP

Director of Emergency Operations

Emergency Preparedness and Response Program, Emergency Operations Unit

Los Angeles County Department of Public Health

241 N. Figueroa St, Suite 148

Los Angeles, CA 91752

(213) 250-8681

(323) 384-8902

micontreras@ph.lacounty.gov

Our mission: “To protect health, prevent disease, and promote health and well-being”

To: Allen, HarryL[Allen.HarryL@epa.gov]; CASTRO, KEVIN[Castro.Kevin@epa.gov]; Trevor_Anderson@oes.ca.gov[Trevor_Anderson@oes.ca.gov]; Temple, Celeste[Temple.Celeste@epa.gov]; Irizarry, Gilberto[Irizarry.Gilberto@epa.gov]; Guria, Peter[Guria.Peter@epa.gov]; Manzanilla, Enrique[Manzanilla.Enrique@epa.gov]; Richman, Lance[Richman.Lance@epa.gov]; Lawrence, Kathryn[Lawrence.Kathryn@epa.gov]; Benson, Craig[Benson.Craig@epa.gov]; Lee, Barbara[Lee.Barbara@epa.gov]; MUSANTE, JASON[Musante.Jason@epa.gov]; Vianu, Libby[Vianu.Libby@epa.gov]; Paul.Penn@calepa.ca.gov[Paul.Penn@calepa.ca.gov]; gbaker1@dtsc.ca.gov[gbaker1@dtsc.ca.gov]; Reynolds, Rebekah[Reynolds.Rebekah@epa.gov]; Wilson, Kristine[WILSON.KRISTINE@EPA.GOV]; joseph.johns@USDOJ.GOV[joseph.johns@USDOJ.GOV]; Angela.M.Vallier@uscg.mil[Angela.M.Vallier@uscg.mil]; jreeb@ceooem.lacounty.gov[jreeb@ceooem.lacounty.gov]; reuben.martinez@cityofmaywood.org[reuben.martinez@cityofmaywood.org]; sprieto@ph.lacounty.gov[sprieto@ph.lacounty.gov]; bill.jones@fire.lacounty.gov[bill.jones@fire.lacounty.gov]; Tony.Payne@fire.lacounty.gov[Tony.Payne@fire.lacounty.gov]; sfogleman@ph.lacounty.gov[sfogleman@ph.lacounty.gov]; jeremiah.j.winston@uscg.mil[jeremiah.j.winston@uscg.mil]

From: FruitlandMgFire@epaosc.org

Sent: Sun 6/19/2016 11:58:15 PM

Subject: Pollution Report # (Initial)1 Fruitland Magnesium Fire Incident - Emergency Response and Use of Delegated Procurement Authority

MAIL RECEIVED: Sun 6/19/2016 11:58:22 PM

[FruitlandMgFire_polrep_1.htm](#)

[FruitlandMgFire_polrep_1_20160614_234816.jpg](#)

[FruitlandMgFire_polrep_1_20160614_173935.jpg](#)

[FruitlandMgFire_polrep_1_20160614_234739.jpg](#)

Attached is a Pollution Report (POLREP) regarding:

USEPA Region IX

Fruitland Magnesium Fire Incident

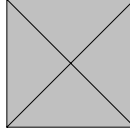
3570 Fruitland Ave., Maywood, CA

To view this POLREP, please open the attachment.

For additional information regarding this site,
please visit the website by clicking on this link:

<http://epaosc.org/FruitlandMgFire>

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Fruitland Magnesium **Fire** Incident - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IX

Subject: **POLREP #1**
Emergency Response and Use of Delegated Procurement Authority
Fruitland Magnesium Fire Incident
Maywood, CA
Latitude: 33.9961640 Longitude: -118.2011630

To: Harry Allen, EPA Region 9
Trevor Anderson, Cal Emergency Management Agency
Celeste Temple, EPA Region 9
Tito Irizarry, EPA Office of Emergency Management
Peter Guria, EPA Region 9
Enrique Manzanilla, EPA Region 9
Lance Richman, EPA Region 9
Kathryn Lawrence, Preparedness and Prevention Section
Craig Benson, EPA Region 9
Barbara Lee, EPA Region 9
Jason Musante, EPA Region 9
Libby Vianu, ATSDR
Paul Penn, CALEPA
George Baker, DTSC
Rebekah Reynolds, EPA
Kristine Wilson, EPA CID
Joseph Johns, USAO
Angela Vallier, USCG IMAT
Jeff Reeb, LACo OEM
Ruben Martinez, City of **Maywood**
Silvia Prieto, LACoPH
William Jones, LACoFD HHMD
Tony Payne, LACoFD HHMD
Stella Fogleman, LACoPH

JJ Winston, USCG PST

From: Robert Wise, OSC

Date: 6/18/2016

Reporting Period: 06/14-18/2016

1. Introduction

1.1 Background

Site Number:		Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	6/14/2016	Start Date:	6/14/2016
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Magnesium fire at a metal recycling and stripping company.

1.1.2 Site Description

On June 14, 2016 at approximately 0200 hours, a fire started at Panda International Trading (PIT) located at 3570 Fruitland Ave., Maywood, CA. Fruitland Ave. is a commercial/light manufacturing district. The facility holds

two businesses, PIT and SOKOR Metals. PIT is a scrap metal yard that send scrap metal out in bulk for recovery. SOKOR is a precious metals recovery operation that recovers precious metals from circuit boards and other electronics. The site originally consisted of several buildings, but all were destroyed in the fire.

During the fire approximately 300 people on [REDACTED] were evacuated.

The evacuation was lifted homes on the south side of [REDACTED] on June 16, 2016, by LACoFD. The homes of the [REDACTED] that borders the site have remained evacuated due to the presence of ash throughout the properties. Approximately 31 families remain evacuated and are staying at a Red Cross Shelter.

1.1.2.1 Location

The site is located at 3570 Fruitland Ave., Maywood, Los Angeles Co., CA 90702 (Latitude: 33.9961640 Longitude: -118.2011630). On the southern fence line of the site is a residential neighborhood of single family homes. To the north, east and west is are light industry.

1.1.2.2 Description of Threat

At the PIT site there is approximately 10,000 pounds of magnesium. On the morning of June 14, 2016, during firefighting operations, the magnesium exploded twice, showering Fruitland Ave. and the adjacent residential neighborhood with chunks of burning magnesium. Due to the hazards associated with fighting this fire, the Los Angeles County Fire Department (LACoFD) has adopted a defensive firefighting mode and is allowing the fire to burn. EPA assistance was requested by LACoFD Health Hazmat Division (HHMD). Upon arriving EPA was tasked with providing air surveillance for the fire. OSC Wise delegated the EPA START contractor with this task.

At 1700 hours on June 16, 2016, EPA was referred the site by LACoFD Health Hazmat Division and OSC R. Wise initiated a CERCLA removal action using his delegated procurement authority. EPA is in a Unified Command with LACo Public Health (LACoPH). The site meets the meets the following criteria pursuant to 40 CFR 300.415(b)(2) of the NCP:

- (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
- (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;
- (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
- (vi) Threat of fire or explosion;
- (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and
- (viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On June 14, 2016, EPA initiated an air surveillance program. The air monitoring parameters included real-time instruments for volatile organic compounds (VOCs), carbon monoxide (CO), lower explosive limit (LEL); percent oxygen, hydrogen sulfide (H₂S), hydrogen cyanide (HCN), and total particulates. The air sampling parameters include total metals and HCN. This air surveillance program was kept in place until the morning of July 16, 2016, when the fire was extinguished. The monitoring data for all parameters other than total particulates was within background concentrations. The total particulates concentrations were up to 11 mg/m³ in heavy smoke. The air sampling data for June 14 and documented the presence of the following metals in low concentrations (2-5 orders of magnitude below the OSHA PEL): aluminum, arsenic, chrome, cadmium, copper, lead, vanadium, and zinc. The data for June 16 is pending.

On June 15, 2016, the START at the direction of the OSC collected four ash samples. The samples were collected from the northwest corner of Fruitland Ave. and [REDACTED]; the perimeter of the site and to residences on the southern perimeter of the site. On July 16, 2016, the START contractor conducted a preliminary XRF analysis of the ash that documented elevated concentrations of arsenic, chrome, copper, lead and zinc. On June 17, 2016, the samples were submitted for laboratory analysis for total metals, VOCs, semi-VOCs and dioxins/furans. The total metals data was available in the evening of June 17, 2016 confirmed elevated concentrations of metals including copper and zinc. The remaining analytical parameters are pending.

On June 15, 2016, EPA in cooperation with the Unified Command partners, HHMD and LACoPH initiated a program of indoor air sampling to determine if contaminated ash had entered the homes that bordered the southern perimeter of the site. The program is an activity based sampling in which a fan is placed in the room to rouse the dust (simulating people walking in the room) and two samples for total metals are then collected. One sampler is placed at the breathing zone for children and the other at the breathing zone for adults. The sampling takes place of a four hour period. The analysis data is pending. The first sample location was from the home that is directly behind the burning magnesium pile in a room where the windows were blown out. The next two samples were collected from homes bordering the southern border of the site in which the windows are in-tact. The sampling program is on-going, but is slow due to the fact that the homes are evacuated and getting signed access has been difficult.

On June 17, 2016, the EPA team made a level B entry into the site to conduct air monitoring. Monitoring was conducted using a Multi-Rae Pro multi-gas meter, a Ludlum Model 19 gamma dose rate meter and a Lumex mercury meter. No airborne contaminants were detected. The site has been downgraded to a level C site.

On June 18, 2015, EPA, DTSC and HHMD begun assessments of the exterior of the evacuated properties and it was completed on June 19, 2016. The assessments determined that every home on the [REDACTED] that has been evacuated have ash contamination.

2. Current Activities

2.1.1 Narrative

OSC Wise has mobilized to an ongoing fire in Maywood, CA on June 14, 2016. The fire started early on the morning of June 14, 2016 at 3570 Fruitland Ave., Maywood CA. This address included a scrap metal export business and a precious metals recovery business. The fire ignited approximately 10,000 pounds of magnesium ingots stored at the scrap metal exporter. During firefighting operations, the magnesium exploded several times after contact with the firefighting water. Approximately 300 people were evacuated from the [REDACTED], Maywood. Approximately 45 people remain evacuated. No injuries are reported but the South Coast Air Quality Management District (AQMD) has issued a smoke advisory and are assessing possible toxic concerns and responding to odor complaints. The LACoFD prevented the fire from spreading to any other businesses and homes, while allowing the magnesium to fully combust. HHMD on scene and requested assistance from Region 9 in handling contaminated firefighting water and with air surveillance.

The fire was extinguished by June 16, 2016, but ash is strewn throughout the neighborhood, on surfaces of buildings, cars as well as in yards and parking areas. Sampling by EPA have documented that the ash contains elevated levels of lead, manganese, copper and zinc. Homes on [REDACTED] have been reoccupied but homes on [REDACTED], adjacent to the facility, remain evacuated pending safe occupancy determinations by LA County health officials. A total of 12 properties remain evacuated, some of which have multi-family dwellings on them.

The Unified Command has requested EPA to conduct air sampling inside homes situated on these 12 parcels and that effort is began on June 16, 2016. Air samples will be collected and analyzed for metals only. Data will be provided to health officials for re-occupancy determinations. In addition, EPA collected ash samples throughout the area yesterday. Locations included a parking lot, the facility

perimeter and the surface of 2 residences. These samples were analyzed for metals, VOCS, semi-VOCS and dioxins/furans and results are pending. Results over CA regulated waste levels (TTL C) may require physical removal and disposal. An entry team plans on entering the facility boundary to characterize the burn area tomorrow.

Unified Command at the Incident has shifted from LA County Fire and Sheriff to EPA Region 9, LA County Health and County Health Hazmat, EPA and LACoPH. DTSC ER has begun to coordinate on the Site as well and has tentatively agreed to dispose contaminated firefighting water. Potentially Responsible Parties have been issued letters of Federal Interest the Region's Civil Investigators and attorney advisor are reviewing the case as well.

On June 16, 2016 OSC Robert Wise utilized his delegated procurement authority to dispatch the ERRS contractor to conduct emergency removal action. EPA is participating in an Unified Command with HHMD and LACoPH.

2.1.2 Response Actions to Date

June 14, 2016

Agencies Present: EPA, LACoFD, LACoPH, Vernon Fire Department (VFD), Vernon Police Department (VPD), Los Angeles Co. Sheriffs (LACoSD) and AQMD

Contractors Present: START

EPA mobilized to the scene. The LACoFD was monitoring the fire, but only conducting defensive operations due to the presence of the magnesium. OSC Wise deployed the START contractor. The START contractor began air surveillance operations as described in Section 1.1.3. The AQMD was also collection air samples. EPA integrated into the Unified Command

June 15, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD,

LACoSD and AQMD			
Contractors Present: START			
LACoFD is continuing fire fighting operations. The START and AQMD continued air surveillance. The START collected ash samples to characterize it. See Section 1.1.3 for more information.			
June 16, 2016			
Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, LACoSD and AQMD			
Contractors Present: START, ERRS, United Pumping (LACoFD and ERRS sub), PES (VFD)			
LACoFD is completed fire fighting operations. The START and SCAQMD continued air surveillance. The START collected ash samples conducted field characterization of the ash samples using the XRF. See Section 1.1.3 for more information.			
The LACoFD conducted a gross decontamination of the homes along [REDACTED] using fire hoses. They contracted with Patriot Environment Services (PES) to collect the water. The VFD conducted similar operations of the businesses situated downwind of the facility. VFD hired United Pumping Services to collect the water.			
Based on the data that the ash meets the criteria for California toxic hazardous waste, OSC Wise used his delegated procurement authority to dispatch the ERRS contractor. The ERRS contractor entered into a subcontract with United Pumping who was already on-site to clean the streets and sidewalks in the command post area (Fruitland Ave. [REDACTED] and approximately 100 meter of [REDACTED] Fruitland Ave. The ERRS contractor worked throughout the night. United Pumping placed a 22,000 gallon water collection tank in front of the facility to store the decontamination water that they and PES had generated. OSC Wise negotiated with DTSC Emergency Response for the State to pay for the disposal of the water.			
The START contractor began to conducted activity based			

sampling in the impacted homes. See QASP in the documents section for details. One home was sampled.

OSC Wise met with the Potentially Responsible Party (PRP) and their insurance company. Coverage information is pending.

OSC Wise requested assistance from the Pacific Strike Team (PST). They will be on-site on Saturday. They will function as the Site Safety Officer (SSO) and the Planning Section Chief.

June 17, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, and LACoSD

Contractors Present: START, ERRS, United Pumping (ERRS sub)

The EPA ERRS contractor, subcontractor United Pumping continued to clean the sidewalks along Fruitland. United Pumping also began to conduct water removal operations from the 3570 Fruitland site location to prevent off-site migration of contaminated fire suppression water. United Pumping also began to clean the drainage culvert boxes on Fruitland. OSC Wise stopped their operations because they conducting an improper permit confined space entry. After discussion of this issue with the ERRS Response Manager (RM), OSC Wise directed the RM to dismiss United Pumping and replace them with Double Barrel Environmental Services, a regular ERRS teaming sub.

The START continued indoor air sampling in the homes. Two homes were sampled.

The START contractor was appointed as the head of the Sampling Group under the Unified Command. The ERRS RM will serve as the Operations Section Chief until replaced by OSC Jason Musante on Monday.

June 18, 2016

Agencies Present: EPA, LACoFD, LACoPH, VFD, VPD, and LACoSD

Contractors Present: START, ERRS, Double Barrel (ERRS Team Sub)			
The ERRS contractor continued to clean areas along Fruitland Ave. of ash. ERRS finished cleaning the drainage culvert boxes.			
The START collected samples from the inside of two homes. The START worked with HHMD personnel to begin the assessment of the home sites for ash and other contaminants from the fire. Six homes were completed. The START set up a geoviewer and SCRIBE for this site.			
OSC Wise deployed ERT and SERAS for arrival on Sunday. One member of the PST arrived on-site. Chief J.J. Winston will act as the Incident Safety Officer. The START is deploying an Certified Industrial Hygienist and air sampling specialist at OSC Wise's request to assist PST.			
2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)			
OSC Wise issued a Notice of Federal Response Action to Mr. Pan on June 15, 2016 notifying him of his liability and requesting he conduct cleanup operations. He replied on June 17, 2016 that he was refusing to conduct the grounds of financial inability.			
2.1.4 Progress Metrics			

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposition</i>

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2.2 Planning Section

2.2.1 Anticipated Activities

Activities for June 19, 2016 will include:

- Cleaning of [REDACTED] and sidewalks between [REDACTED]
- Gross decontamination of cars parked on [REDACTED] the night of the fire. The car owners will then be provided a voucher to take the car to a car wash for a thorough cleaning.;
- Residential assessments; and
- Sampling of decontamination water tank;

2.2.1.1 Planned Response Activities

Removal operations will include the following:

- Completion of the residential assessments;
- Decontamination of the homes on the [REDACTED];
- Decontamination of any streets or sidewalks contaminated with ash; and
- Removal of all hazardous substances from the site.

2.2.1.2 Next Steps

The schedule through Thursday of next week is as follows:

Monday:

- Apply Guerilla Snot soil tacifier to site to keep down dust;
- Install roads through debris on-site to allow access to all areas of the site (air surveillance for this activity);
- Finish residential assessments and
- Begin residential decontamination.

Tuesday:

2.3 Logistics Section

2.4 Finance Section

<ul style="list-style-type: none"> Continue residential decontaminations; Conduct a container inventory and sampling on-site; and Explore magnesium removal. <p>Wednesday:</p> <ul style="list-style-type: none"> Continue residential decontaminations; Continue container inventory and sampling and repackage any leaking containers; and Magnesium collection (air surveillance for this activity). <p>Thursday-Friday</p> <ul style="list-style-type: none"> Continue residential decontamination. <p>2.2.2 Issues</p> <p>A Joint Information Center has been set up and EPA does not have adequate representation on-site.</p> <p>LACoPH is serving as the Logistics Section Chief for the Unified Command. The ERRS contractor is handling logistics for EPA.</p> <p>On June 16, 2016, OSC Wise notified Alex Kramer, EPA Contracting Officer that he was utilizing his delegated procurement authority to dispatch the ERRS contractor. A START TDD has also been opened. On June 18, 2016, OSC Wise requested the ERRS TO be increased to \$685,000 and sent a START TDD amendment raising the ceiling to 380,000.</p>				
Estimated Costs	*Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$185,000.00	\$0.00	\$185,000.00	0.00%
IAGs - PST	\$15,000.00	\$0.00	\$15,000.00	100.00%
TAT/START	\$68,341.00	\$34,933.00	\$33,408.00	48.88%

Intramural Costs				
Total Site Costs	\$268,341	\$84,933.00	\$233,408	86.98%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

The SSO is the PST.

2.5.2 Liaison Officer

The Liaison Officer is being staffed by LACoPH.

2.5.3 Information Officer

An EPA PIO has been requested for deployment, but declined by OPA. A JIC has been staffed up and the lead PIO is LACoPH.

3. Participating Entities

3.1 Unified Command

The Unified Commanders are EPA, LACoFD HHMS and LACoPH.

3.2 Cooperating Agencies

LACoSD, VFD, VPD, SCAQMD, LACoISD; DTSC, EPA CID, City of Maywood, City of Vernon.

4. Personnel On Site

June 14, 2016:

EPA: OSC Wise

START: 5

June 15, 2016:

EPA: OSC Wise

START: 5

June 16-18, 2016

EPA: OSC Wise

START: 4

ERRS: 7

June 19:

EPA: OSC Wise, J. Eckelson (ERT)

SERAS: 2

START: 3

ERRS: 7

5. Definition of Terms

AQMD: South Coast Air Quality Management District

CERCLA: Comprehensive Environmental Response Compensation and Liability Act

CFR: Code of Federal Regulations

Co.: County

DTSC: Department of Toxic Substances

EPA: Environmental Protection Agency

ERRS: Emergency and Rapid Removal Services (EPA Contractor)

ERT: Environmental Response Team

HCN: Hydrogen Cyanide

HHMD: Health Hazardous Materials Division

LACoFD: Los Angeles County Fire Department

LACoPH: Los Angeles County Public Health

LACoSD: Los Angeles County Sheriff's Department

NCP: National Contingency Plan (40 CFR 300)

OSC: On--Scene Coordinator

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PES: Patriot Environmental Services

PRP: Potentially Responsible Party

PST: Pacific Strike Team

PIT: Panda International Trading Co.

RM: Removal Manager

SERAS: Science, Engineering, Response and Analytical Support contractor

SOKOR: SOKOR Metals

START: Superfund Technical Assessment Response Team contractor

TTLC: Total Threshold Limit Concentration

VFD: Vernon Fire Department

VOCs: Volatile Organic Compounds

VPD: Vernon Police Department

XRF: X-Ray Fluorescence Spectrometer

6. Additional sources of information

6.1 Internet location of additional information/report

The website for this site is located www.epaosc.org/FruitlandMgFire.

6.2 Reporting Schedule

The next POLREP will be June 23, 2016.

7. Situational Reference Materials

See the IAPs in Documents Section.







To: Jeffery Reeb[jreeb@ceooem.lacounty.gov]; Angelo Bellomo[abellomo@ph.lacounty.gov]; Meer, Daniel[Meer.Daniel@epa.gov]; Jones, Bill[Bill.Jones@fire.lacounty.gov]; Payne, Tony[Tony.Payne@fire.lacounty.gov]
Cc: Ashu Palta[APalta@ceooem.lacounty.gov]; Loaretta Keith[lkeith@ph.lacounty.gov]; Charlene Contreras[chcontreras@ph.lacounty.gov]; Rogow, Michelle[Rogow.Michelle@epa.gov]; Tresieras, Mario[Mario.Tresieras@fire.lacounty.gov]; Valadez, Pablo[Pablo.Valadez@fire.lacounty.gov]; Jim Bailey [jbailey@willdan.com][jbailey@willdan.com]; Mike Hooper (mhooper@willdan.com)[mhooper@willdan.com]; Stella Fogleman[sfogleman@ph.lacounty.gov]
From: Michael Contreras
Sent: Wed 9/21/2016 5:18:52 PM
Subject: Fruitland ARR
MAIL RECEIVED: Wed 9/21/2016 5:19:34 PM
[LACDPH - Request for Services FFAAR001, After Action Report Facilitatio....pdf](#)

All,

We have completed the acquisition process for a vendor to draft and complete the Fruitland AAR.

The selected vendor is Willdan Homeland Solutions and I have taken the liberty of attaching their proposal to this email.

I do want to note that based on feedback received from the various agencies involved in this, we will be foregoing the Field Responder All Staff* meeting and will only be completing the following workshop elements:

Line Management Workshop- IC's, Section Chiefs, and Key Support Staff

PIO Workshop-

Policy Level Workshop- The attendees for this element will be determined by the Steering Committee at a later date.

(*Willdan will gather the notes and findings from the various internal discussions held by each agency to capture the field elements within the AAR.)

LA County staff will be meeting with the vendor this Friday to review the SOW and establish some base parameters to start the project.

Our critical next step will be to have the AAR Steering Committee meet as soon as possible and establish the strategic direction for the AAR. The vendor will be contacting you via email to establish a time and place. For our friends at the EPA we will offer a distance conferencing option for this kickoff meeting.

I, and the vendor, hope the Steering Committee also establishes a date for the Policy Level meeting so that it may be conducted face-to-face and with plenty of time to allow for travel arrangements to be made.

Michael J. Contreras, MA, MEP

Director of Emergency Operations

Emergency Preparedness and Response Program, Emergency Operations Unit

Los Angeles County Department of Public Health

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Our mission: “To protect health, prevent disease, and promote health and well-being”

ATTACHMENT 1
OUTDOOR CHECKLIST



COUNTY OF LOS ANGELES
Public Health



Outdoor Residential Cleanup Check List

Address	[REDACTED]	
Resident/Owner	[REDACTED]	
Task	Date Completed	
Consent for Access to Property form signed	6-18-16	
Visible Ash Assessment	6-26-16	
Consultation with resident	6-26-16	
Pre-cleanup photo documentation	6-26-16	
Clean-up	6-30-16	
Post-cleanup photo documentation	7-8-16	
	Date	Signature
ACAT Referral to UC	7-8-16	<i>Dm. Wall</i>
UC Representative Approval		
U.S. EPA/USCG	7-8-16	<i>Whitney Wells</i>
LA County Fire HHMD	7-8-16	<i>Dm. Wall</i>
LA County DPH	7/8/16	<i>Paula Lee</i>
Resident/Owner Walk-thru and Approval	7-9-16	[REDACTED]

ATTACHMENT 2
METALS INFORMATION

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Aluminum

Description

Aluminum is the most abundant metal in the earth's crust and it is widely distributed.

Aluminum is a very reactive element and is never found as the free metal in nature. It is found combined with other elements, most commonly with oxygen, silicon, and fluorine. These chemical compounds are commonly found in soil, minerals (e.g., sapphires, rubies, turquoise), rocks (especially igneous rocks), and clays.

Aluminum as the metal is obtained from aluminum-containing minerals, primarily bauxite.

Aluminum metal is light in weight and silvery-white in appearance.

Sources

Aluminum occurs naturally in soil, water, and air. High levels in the environment can be caused by the mining and processing of aluminum ores or the production of aluminum metal, alloys, and compounds.

Small amounts of aluminum are released into the environment from coal-fired power plants and incinerators.

Breakdown

Aluminum cannot be destroyed in the environment. It can only change its form or become attached or separated from particles.

Air

Aluminum particles in air settle to the ground or are washed out of the air by rain. However, very small aluminum particles can stay in the air for many days.

Water and soil

Most aluminum-containing compounds do not dissolve to a large extent in water unless the water is acidic or very alkaline.

HOW CAN ALUMINUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

A small amount of the aluminum you breathe will enter your body through your lungs.

Ingestion

A very small amount of the aluminum in food or water will enter your body through the digestive tract. An extremely small amount of the aluminum found in antacids will be absorbed.

Dermal

A very small amount may enter through your skin when you come into contact with aluminum

Leave your body

Most aluminum in food, water, and medicines leaves your body quickly in the feces. Much of the small amount of aluminum that does enter the bloodstream will quickly leave your body in the urine.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp22.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Antimony

Description

Antimony is a silvery white metal of medium hardness that breaks easily. Small amounts of antimony are found in the earth's crust. Antimony ores are mined and then either changed into antimony metal or combined with oxygen to form antimony oxide.

Antimony oxide is a white powder that does not evaporate. Only a small amount of it will dissolve in water. Most antimony oxide produced is added to textiles and plastics to prevent their catching on fire.

Antimony metal is too easily broken to be used much by itself. To make it stronger, a little antimony is usually mixed with other metals such as lead and zinc to form mixtures of metals called alloys. These alloys are used in lead storage batteries, solder, sheet and pipe metal, bearings, castings, type metal, ammunition, and pewter.

Sources

Antimony is found at very low levels in the environment, so low that we often cannot measure it. You may be exposed to antimony by breathing air, drinking water, and eating foods that contain it. You also may be exposed by skin contact with soil, water, and other substances that contain antimony.

Antimony enters the environment during the mining and processing of its ores and in the production of antimony metal, alloys, antimony oxide, and combinations of antimony with other substances. Little or no antimony is mined in the United States. Antimony ore and impure metals are brought into this country from other countries for processing. Most antimony will end up in the soil or sediment, where it attaches strongly to particles that contain iron, manganese, or aluminum.

Breakdown

The antimony that comes out of the smoke stacks of these plants is attached to very small particles that settle to the ground or are washed out of the air by rain. It usually takes many days for antimony to be removed from the air. Antimony attached to very small particles may stay in the air for more than a month.

HOW CAN ANTIMONY ENTER AND LEAVE MY BODY?

Enter your body

Antimony can enter your body when you drink water or eat food, soil, or other substances that contain antimony. Antimony can also enter your body if you breathe air or dust containing antimony. We do not know if antimony can enter your body when it is placed on your skin.

Leave your body

A small amount of the antimony you eat or drink enters the blood after a few hours. The amount and the form of antimony in the food or water will affect how much antimony enters your blood. After you eat or drink very large doses of antimony, you may vomit. This will prevent most of the antimony from entering through the stomach and intestines into your blood. Antimony in your lungs will enter your blood after several days or weeks. The amount of antimony that will enter your blood from your lungs is not known.

After antimony enters your blood, it goes to many parts of your body. Most of the antimony goes to the liver, lungs, intestines, and spleen. Antimony will leave your body in feces and urine over several weeks.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp23.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Arsenic

Description

Arsenic is classified chemically as a metalloid, having both properties of a metal and a nonmetal; however, it is frequently referred to as a metal. Elemental arsenic (sometimes referred to as metallic arsenic) is a steel grey solid material.

However, arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur. Arsenic combined with these elements is called inorganic arsenic. Arsenic combined with carbon and hydrogen is referred to as organic arsenic.

Most inorganic and organic arsenic compounds are white or colorless powders that do not evaporate. They have no smell, and most have no special taste. Thus, you usually cannot tell if arsenic is present in your food, water, or air.

Inorganic arsenic occurs naturally in soil and in many kinds of rock, especially in minerals and ores that contain copper or lead. When these ores are heated in smelters, most of the arsenic goes up the stack and enters the air as a fine dust. Smelters may collect this dust and take out the arsenic as a compound called arsenic trioxide (As₂O₃).

Sources

Arsenic occurs naturally in soil and minerals and it therefore may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching. Volcanic eruptions are another source of arsenic.

Arsenic is associated with ores containing metals, such as copper and lead. Arsenic may enter the environment during the mining and smelting of these ores. Small amounts of arsenic also may be released into the atmosphere from coal-fired power plants and incinerators because coal and waste products often contain some arsenic.

Food is usually the largest source of arsenic. The predominant dietary source of arsenic is seafood, followed by rice/rice cereal, mushrooms, and poultry.

Breakdown

Arsenic cannot be destroyed in the environment. It can only change its form, or become attached to or separated from particles. It may change its form by reacting with oxygen or other molecules present in air, water, or soil, or by the action of bacteria that live in soil or sediment. Ultimately, most arsenic ends up in the soil or sediment.

HOW CAN ARSENIC ENTER AND LEAVE MY BODY?

Enter your body

If you swallow arsenic in water, soil, or food, most of the arsenic may quickly enter into your body. If you breathe air that contains arsenic dusts, many of the dust particles settle onto the lining of the lungs. Most of the arsenic in these particles is then taken up from the lungs into the body. You might be exposed in this way near waste sites where arsenic-contaminated soils are allowed to blow into the air, or if you work with arsenic-containing soil or products. If you get arsenic-contaminated soil or water on your skin, only a small amount will go through your skin into your body, so this is usually not of concern.

Leave your body

Both inorganic and organic forms leave your body in your urine. Most of the inorganic arsenic will be gone within several days, although some will remain in your body for several months or even longer. If you are exposed to organic arsenic, most of it will leave your body within several days.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp2.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Barium

Description

Barium is a silvery-white metal that takes on a silver-yellow color when exposed to air.

Barium occurs in nature in many different forms called compounds. These compounds are solids, existing as powders or crystals, and they do not burn well. Two forms of barium, barium sulfate and barium carbonate, are often found in nature as underground ore deposits.

Other barium compounds, such as barium chloride, barium nitrate, and barium hydroxide, are manufactured from barium sulfate.

Barium compounds such as barium acetate, barium chloride, barium hydroxide, barium nitrate, and barium sulfide dissolve more easily in water than barium sulfate and barium carbonate, but because they are not commonly found in nature, they do not typically end up in drinking water unless the water is contaminated by barium compounds that are released from waste sites.

Sources

Barium is sometimes found naturally in drinking water and food.

Background levels of barium in the environment are very low. The air that most people breathe contains about 0.0015 parts of barium per billion parts of air (ppb).

Barium sulfate ore is mined and used in several industries. It is used mostly by the oil and gas industries to make drilling muds. Drilling muds make it easier to drill through rock by keeping the drill bit lubricated. Barium sulfate is also used to make paints, bricks, tiles, glass, rubber, and other barium compounds. Some barium compounds, such as barium carbonate, barium chloride, and barium hydroxide, are used to make ceramics, insect and rat poisons, and additives for oils and fuels; in the treatment of boiler water; in the production of barium greases; as a component in sealants, paper manufacturing, and sugar refining; in animal and vegetable oil refining; and in the protection of objects made of limestone from deterioration. Barium sulfate is sometimes used by doctors to perform medical tests and take x-ray photographs of the stomach and intestines.

Breakdown

Barium compounds that do not dissolve well in water, such as barium sulfate and barium carbonate, can persist for a long time in the environment. Barium compounds, such as barium chloride, barium nitrate, or barium hydroxide, that dissolve easily in water usually do not last in these forms for a long time in the environment. The barium in these compounds that is dissolved in water quickly combines with sulfate or carbonate that are naturally found in water and become the longer lasting forms (barium sulfate and barium carbonate). Barium sulfate and barium carbonate are the barium compounds most commonly found in the soil and water. If barium sulfate and barium carbonate are released onto land, they will combine with particles of soil.

HOW CAN BARIUM ENTER AND LEAVE MY BODY?

Enter your body

Barium enters your body when you breathe air, eat food, or drink water containing barium. It may also enter your body to a small extent when you have direct skin contact with barium compounds. The amount of barium that enters the bloodstream after you breathe, eat, or drink it depends on the barium compound. Some barium compounds that are soluble, such as barium chloride, can enter bloodstream more easily than insoluble barium compounds such as barium sulfate. Some barium compounds (for example, barium chloride) can enter your body through your skin.

Leave your body

Barium that enters your body by breathing, eating, or drinking is removed mainly in feces and urine. Most of the barium that enters your body is removed within 1–2 weeks. Most of the small amount of barium that stays in your body goes into the bones and teeth.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp24.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Beryllium

Description

Beryllium is an element that occurs naturally. It is present in a variety of materials, such as rocks, coal and oil, soil, and volcanic dust.

Two kinds of mineral rocks, bertrandite and beryl, are mined commercially for the recovery of beryllium.

Very pure gem-quality beryl is better known as either aquamarine (blue or blue-green) or emerald (green).

Beryllium is the lightest metal. A key distinction among beryllium compounds is that some are soluble in water, but many are not.

Sources

Beryllium enters the air, water, and soil as a result of natural and human activities. Emissions from burning coal and oil increase beryllium levels in the air.

Beryllium in water comes from different sources. Most of it comes from dissolving beryllium out of rocks and soil that water runs over and through. Only a very small part is from the settling of beryllium dust out of the air.

Breakdown

Air

Very small dust particles of beryllium in the air fall out of the air onto surface water, plant surfaces, and soil either by themselves or when rain or snow falls.

Water and Soil

These beryllium particles eventually end up back in the soil or in the bottoms of lakes, rivers, and ponds, where they stay and mix with beryllium that is already there.

HOW CAN BERYLLIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Beryllium can enter your body if you breathe air containing it. When you breathe air containing beryllium, beryllium particles can be deposited in the lungs.

Ingestion

Beryllium can enter your body if you eat food or drink water containing it.

Dermal Contact

Beryllium will not enter your body from skin contact with the metal unless the skin is scraped or cut and beryllium particles become imbedded in the wound. Only a small amount of beryllium may enter your body if your skin comes into contact with a beryllium salt dissolved in water.

Leave your body

The beryllium that you breathe in slowly dissolves in the lungs and moves slowly into the bloodstream. Some of the beryllium deposited in the lungs can be moved to the mouth and then swallowed; the rest can remain in your lungs for a long time. Therefore, most of the beryllium that you swallow leaves your body through the feces without entering the bloodstream.

The small amount of beryllium that moves from the lungs, stomach, and intestines into the bloodstream is carried by the blood to the kidneys. Beryllium leaves the kidneys by the urine. Some beryllium can also be carried by the blood to the liver and bones where it may remain for long periods.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp4.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Cadmium

Description

Metal found in the earth's crust, associated with zinc, lead, and copper ores.

Pure cadmium is a soft, silver-white metal. Cadmium chloride and cadmium sulfate are soluble in water.

Most cadmium used in the United States is extracted as a byproduct during the production of other metals such as zinc, lead, or copper. Cadmium is also recovered from used batteries.

Sources

Cadmium is emitted to soil, water, and air by non-ferrous metal mining and refining, manufacture and application of phosphate fertilizers, fossil fuel combustion, and waste incineration and disposal.

Cadmium can accumulate in aquatic organisms and agricultural crops.

Breakdown

Air

Cadmium (as oxide, chloride, and sulfate) will exist in air as particles or vapors (from high temperature processes). It can be transported long distances in the atmosphere, where it will deposit (wet or dry) onto soils and water surfaces.

Soil

Cadmium and its compounds may travel through soil, but its mobility depends on several factors such as pH and amount of organic matter, which will vary depending on the local environment. Generally, cadmium binds strongly to organic matter where it will be immobile in soil and be taken up by plant life, eventually, entering the food supply.

Water

Cadmium exists as the hydrated ion or as ionic complexes with other inorganic or organic substances. Soluble forms migrate in water. Insoluble forms of cadmium are immobile and will deposit and absorb to sediments.

HOW CAN CADMIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

About 5-50% of the cadmium you breathe will enter your body through your lungs.

Ingestion

A small amount of the cadmium in food and water (about 1-10%) will enter your body through the digestive tract. If you do not have enough iron or other nutrients in your diet, you are likely to take up more cadmium from your food than usual.

Dermal contact

Virtually no cadmium enters your body through your skin.

Leave your body

Most of the cadmium that enters your body goes to your kidney and liver and can remain there for many years. A small portion of the cadmium that enters your body leaves slowly in urine and feces.

Your body can change most cadmium to a form that is not harmful, but too much cadmium can overload the ability of your liver and kidney to change the cadmium to a harmless form.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp5.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Chromium

Description

Chromium is a naturally-occurring element found in rocks, animals, plants, and soil, where it exists in combination with other elements to form various compounds.

The three main forms of chromium are: chromium (0), chromium (III), and chromium (VI).

Small amounts of chromium (III) are needed for human health.

Sources

Chromium can be found in air, soil, and water after release from industries that use chromium, such as industries involved in electroplating, leather tanning, textile production, and the manufacture of chromium-based products.

Chromium can also be released into the environment from the burning of natural gas, oil, or coal.

Breakdown

Air

Chromium does not usually remain in the atmosphere, but is deposited into the soil and water.

Water and Soil

Chromium can change from one form to another in water and soil, depending on the conditions present.

HOW CAN CHROMIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

When you breathe air containing chromium, some of the chromium will enter your body through your lungs. Some forms of chromium can remain in the lungs for several years or longer.

Ingestion

A small percentage of ingested chromium will enter the body through the digestive tract.

Dermal contact

When your skin comes in contact with chromium, small amounts of chromium will enter your body.

Leave your body

Chromium(VI) is changed to chromium(III) in the body. Most of the chromium leaves the body in the urine within a week, although some may remain in cells for several years or longer.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp7.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Cobalt

Description

Small amounts of cobalt are naturally found in most rocks, soil, water, plants, and animals, typically in small amounts. Cobalt is also found in meteorites.

Elemental cobalt is a hard, silvery grey metal.

However, cobalt is usually found in the environment combined with other elements such as oxygen, sulfur, and arsenic. Small amounts of these chemical compounds can be found in rocks, soil, plants, and animals.

Cobalt can also exist in radioactive forms. ⁶⁰Co is the most important radioisotope of cobalt.

Sources

It may enter air and water, and settle on land from windblown dust, seawater spray, volcanic eruptions, and forest fires and may additionally get into surface water from runoff and leaching when rainwater washes through soil and rock containing cobalt.

Soils near ore deposits, phosphate rocks, or ore smelting facilities, and soils contaminated by airport traffic, highway traffic, or other industrial pollution may contain high concentrations of cobalt.

Breakdown

Cobalt cannot be destroyed in the environment. It can only change its form or become attached or separated from particles.

Air

Cobalt contained in windborne soil is generally found in larger particles than those released from power plants. These large particles settle to the ground or are washed out of the air by rain. Cobalt that is attached to very small particles may stay in the air for many days.

Water and Sediment

Cobalt released into water may stick to particles in the water column or to the sediment at the bottom of the body of water into which it was released, or remain in the water column in ionic form.

Cobalt deposited on soil is often strongly attached to soil particles and therefore would not travel very far into the ground.

HOW CAN COBALT ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Cobalt can enter your body when you breathe in air containing cobalt dust.

Ingestion

Cobalt can be ingested when you drink water that contains cobalt, when you eat food that contains cobalt.

Dermal contact

Cobalt enters the body when your skin touches materials that contain cobalt.

Leave your body

Once cobalt enters your body, it is distributed into all tissues, but mainly into the liver, kidney, and bones. After cobalt is breathed in or eaten, some of it leaves the body quickly in the feces. The rest is absorbed into the blood and then into the tissues throughout the body. The absorbed cobalt leaves the body slowly, mainly in the urine. Studies have shown that cobalt does not readily enter the body through normal skin, but it can if the skin has been cut.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp33.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Copper

Description

Copper is a reddish metal that occurs naturally in rock, soil, water, sediment, and, at low levels, air.

Copper also occurs naturally in all plants and animals. It is an essential element for all known living organisms including humans and other animals at low levels of intake.

Metallic copper can be easily molded or shaped. The elemental color of copper is red and copper compounds can be recognized by their blue-green color.

Sources

Copper can enter the environment through releases from the mining of copper and other metals, and from factories that make or use copper metal or copper compounds.

Copper can also enter the environment through waste dumps, domestic waste water, combustion of fossil fuels and wastes, wood production, phosphate fertilizer production, and natural sources (for example, windblown dust, from native soils, volcanoes, decaying vegetation, forest fires, and sea spray).

Breakdown

Elemental copper does not break down in the environment.

Air

Copper is carried on particles emitted from smelters and ore processing plants, and is then carried back to earth through gravity or in rain or snow. Copper is also carried into the air on windblown metallurgical dust.

Water

When copper and copper compounds are released into water, the copper that dissolves can be carried in surface waters either in the form of copper compounds or as free copper or, more likely, copper bound to particles suspended in the water.

Soil

When copper is released into soil, it can become strongly attached to the organic material and other components (e.g., clay, sand, etc.) in the top layers of soil and may not move very far when it is released.

HOW CAN COPPER ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Copper can also enter your body if you breathe air or dust containing copper.

Ingestion

Copper can enter your body when you drink water or eat food, soil, or other substances that contain copper.

Dermal contact

We do not know how much copper enters the body through the skin.

Leave your body

Copper rapidly enters the bloodstream and is distributed throughout the body after you eat or drink it. Your body is very good at blocking high levels of copper from entering the bloodstream. We do not know how much copper enters the body through the lungs or skin. Copper then leaves your body in feces and urine, mostly in feces. It takes several days for copper to leave your body.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp132.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Lead

Description

Lead is a heavy, low melting, bluish-gray metal that occurs naturally in the Earth's crust.

However, it is rarely found naturally as a metal. It is usually found combined with two or more other elements to form lead compounds.

Metallic lead is resistant to corrosion (i.e., not easily attacked by air or water). When exposed to air or water, thin films of lead compounds are formed that protect the metal from further attack.

Lead is easily molded and shaped. Lead can be combined with other metals to form alloys.

Sources

Lead occurs naturally in the environment. However, most of the high levels found throughout the environment come from human activities.

Lead can enter the environment through releases from mining lead and other metals, and from factories that make or use lead, lead alloys, or lead compounds. Lead is released into the air during burning coal, oil, or waste. Before the use of leaded gasoline was banned, most of the lead released into the U.S. environment came from vehicle exhaust.

Breakdown

Some lead compounds are changed into other forms of lead by sunlight, air, and water. However, elemental lead cannot be broken down.

Air

Lead is removed from the air by rain and by particles falling on land or into surface water.

Water and Soil

Lead may remain stuck to soil particles or sediment in water for many years. Movement of lead from soil particles into groundwater is unlikely unless the rain falling on the soil is acidic or "soft".

Once lead falls onto soil, it sticks strongly to soil particles and remains in the upper layer of soil.

HOW CAN LEAD ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Some of the lead that enters your body comes from breathing in dust or chemicals that contain lead. Once this lead gets into your lungs, it goes quickly to other parts of the body in your blood.

Ingestion

You may also swallow lead by eating food and drinking liquids that contain it.

Dermal contact

Dust and soil that contain lead may get on your skin, but only a small portion of the lead will pass through your skin and enter your blood if it is not washed off.

Leave your body

Shortly after lead gets into your body, it travels in the blood to the "soft tissues" and organs (such as the liver, kidneys, lungs, brain, spleen, muscles, and heart). After several weeks, most of the lead moves into your bones and teeth. Some of the lead can stay in your bones for decades. The lead that is not stored in your bones leaves your body in your urine or your feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp13.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Manganese

Description

Manganese is a naturally occurring substance found in many types of rocks and soil.

Pure manganese is a silver-colored metal; however, it does not occur in the environment as a pure metal. Rather, it occurs combined with other substances such as oxygen, sulfur, and chlorine.

Manganese is a trace element and is necessary for good health.

Sources

Manganese is a normal constituent of air, soil, water, and food.

Additional manganese can be found in air, soil, and water after release from the manufacture, use, and disposal of manganese-based products.

Breakdown

As with other elements, manganese cannot break down in the environment. It can only change its form or become attached or separated from particles.

Soil

The chemical state of manganese and the type of soil determine how fast it moves through the soil and how much is retained in the soil.

Water and sediment

In water, most of the manganese tends to attach to particles in the water or settle into the sediment.

The manganese-containing gasoline additive may degrade in the environment quickly when exposed to sunlight, releasing manganese.

HOW CAN MANGANESE ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

When you breathe air containing manganese, a small amount of the manganese will enter your body through your lungs and the remainder can become trapped in your lungs. Some of the manganese in your lungs can also be trapped in mucus which you may cough up and swallow into your stomach.

Ingestion

Manganese in food or water may enter your body through the digestive tract to meet your body's needs for normal functioning.

Dermal contact

Only very small amounts of manganese can enter your skin when you come into contact with liquids containing manganese.

Leave your body

Once in your body, manganese-containing chemicals can break down into other chemicals. However, manganese is an element that cannot be broken down. Most manganese will leave your body in feces within a few days.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp151.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Mercury

Description

Mercury occurs naturally in the environment and exists in several forms. These forms can be organized under three headings: metallic mercury, inorganic mercury, and organic mercury.

Metallic mercury is a shiny, silver-white metal that is a liquid at room temperature. Metallic mercury is the elemental or pure form of mercury. At room temperature, some of the metallic mercury will evaporate and form mercury vapors. Mercury vapors are colorless and odorless.

Inorganic mercury compounds occur when mercury combines with elements such as chlorine, sulfur, or oxygen. These mercury compounds are also called mercury salts. Most inorganic mercury compounds are white powders or crystals.

When mercury combines with carbon, the compounds formed are called "organic" mercury compounds or organomercurials. The most common forms of methylmercury and phenylmercury are white crystalline solids. Dimethylmercury, however, is a colorless liquid.

Sources

Mercury enters the environment as the result of the normal breakdown of minerals in rocks and soil from exposure to wind and water, and from volcanic activity.

Metallic and inorganic mercury enters the air from mining deposits of ores that contain mercury, from the emissions of coal-fired power plants, from burning municipal and medical waste, from the production of cement, and from uncontrolled releases in factories that use mercury.

Microorganisms (bacteria, phytoplankton in the ocean, and fungi) convert inorganic mercury to methylmercury. This form of mercury can result in bioaccumulation up the food chain especially in fish.

Breakdown

Air

In air, the mercury vapor can be changed into other forms of mercury, and can be further transported to water or soil in rain or snow.

Soil and Water

Mercury usually stays on the surface of sediments or soil and does not move through the soil to underground water. If mercury enters the water in any form, it is likely to settle to the bottom where it can remain for a long time.

HOW CAN MERCURY ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Mercury can enter your body by breathing in mercury vapors in the air.

Ingestion

Mercury can enter the body by swallowing or eating contaminated food or water.

Dermal contact

Mercury can enter the body by close contact with the skin.

Leave your body

Once inorganic mercury enters the body and gets into the bloodstream, it moves to many different tissues. Inorganic mercury leaves your body in the urine or feces over a period of several weeks or months.

Methylmercury can be changed by your body to inorganic mercury that can leave your body via feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp46.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Nickel

Description

Pure nickel is a hard, silvery-white metal, which has properties that make it very desirable for combining with other metals to form mixtures called alloys.

Many of these nickel compounds are water soluble (dissolve fairly easily in water) and have a characteristic green color.

Nickel and its compounds have no characteristic odor or taste.

Sources

Nickel combined with other elements occurs naturally in the earth's crust. It is found in all soil, and is also emitted from volcanoes.

In the environment, it is primarily found combined with oxygen or sulfur as oxides or sulfides. Nickel is also found in meteorites and on the ocean floor in lumps of minerals called sea floor nodules.

Nickel is released into the atmosphere during nickel mining and by industries that make or use nickel, nickel alloys, or nickel compounds. Nickel is also released into the atmosphere by oil-burning power plants, coal-burning power plants, and trash incinerators.

Breakdown

Air

Small particles of dust that settle to the ground or are taken out of the air in rain or snow. It usually takes many days for nickel to be removed from the air. If the nickel is attached to very small particles, it can take more than a month to settle out of the air.

Soil and Water

A lot of nickel released into the environment ends up in soil or sediment where it strongly attaches to particles containing iron or manganese. Under acidic conditions, nickel is more mobile in soil and might seep into groundwater.

HOW CAN NICKEL ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

If you breathe air that contains nickel, the amount of nickel you inhale that reaches your lungs and enters your blood depends on the size of the nickel particles.

Ingestion

More nickel will pass into your body through your stomach and intestines if you drink water containing nickel than if you eat food containing the same amount of nickel.

Dermal contact

A small amount of nickel can enter your bloodstream from skin contact.

Leave your body

After nickel gets into your body, it can go to all organs, but it mainly goes to the kidneys. The nickel that gets into your bloodstream leaves in the urine. After nickel is eaten, most of it leaves quickly in the feces, and the small amount that gets into your blood leaves in the urine.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp15.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Selenium

Description

Selenium, in its pure form of metallic gray to black crystals, is often referred to as elemental selenium or selenium dust. Elemental selenium is commercially produced, primarily as a by-product of copper refining.

Selenium is not often found in the environment in its elemental form, but is usually combined with sulfide minerals or with silver, copper, lead, and nickel minerals.

Selenium also combines with oxygen to form several substances that are white or colorless crystals.

Sources

Weathering of rocks and soils may result in low levels of selenium in water, which may be taken up by plants. Weathering also releases selenium into the air on fine dust-like particles.

Volcanic eruptions may release selenium in air. Selenium commonly enters the air from burning coal or oil. Selenium that may be present in fossil fuels combines with oxygen when burned, which may then react with water to form soluble selenium compounds.

Breakdown

As an element, selenium cannot be created or destroyed, although selenium can change forms in the environment.

Air

Airborne particles of selenium, such as in ash, can settle on soil or surface water.

Soil and Water

The forms and fate of selenium in soil depend largely on the acidity of the surroundings and its interaction with oxygen. In the absence of oxygen when the soil is acidic, the amount of selenium that can enter plants and organisms should be low.

Elemental selenium that cannot dissolve in water and other insoluble forms of selenium are less mobile and will usually remain in the soil, posing smaller risk of exposure. Selenium compounds that can dissolve in water are sometimes very mobile.

HOW CAN SELENIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Selenium in the air may also enter your body when you breathe it.

Ingestion

Selenium from the environment mainly enters the body when people eat food containing selenium.

Dermal contact

You should also be aware that selenium compounds, including those used in some medicated dandruff shampoos, are not easily absorbed through the skin.

Leave your body

Most of the selenium that enters the body quickly leaves the body, usually within 24 hours. Beyond what the body needs, selenium leaves mainly in the urine, but also in feces and breath.

Selenium can build up in the human body, however, if exposure levels are very high or if exposure occurs over a long time. It builds up mostly in the liver and kidneys but also in the blood, lungs, heart, and testes. Selenium can build up in the nails and in hair, depending on time and amount of exposure.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp92.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Silver

Description

Silver is rare but occurs naturally in the environment as a soft, "silver" colored metal. Because silver is an element, there are no manmade sources of silver.

It also occurs in powdery white (silver nitrate and silver chloride) or dark-gray to black compounds (silver sulfide and silver oxide).

Silver could be found at hazardous waste sites in the form of these compounds mixed with soil and/or water.

Silver is stable and remains in the environment in one form or another until it is taken out again by people. The form it is found in depends on environmental conditions.

Sources

The natural wearing down of silver-bearing rocks and soil by the wind and rain also releases large amounts of silver into the environment.

Photographic materials are the major source of the silver that is released into the environment.

Another source is mines that produce silver and other metals.

Breakdown

Because silver is an element, it does not break down, but it can change its form by combining with other substances. Over time it may change from the form first released, to metallic silver, and then back to the same or other compounds.

Silver that is released into the environment may be carried long distances in air and water. Rain washes silver compounds out of many soils so that it eventually moves into the groundwater.

HOW CAN SILVER ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Silver may enter your body after breathing air containing silver.

Ingestion

Silver may enter the body of a person is by drinking water that contains silver or eating food grown near the site in soil that contains silver. Silver can also enter the body when soil that has silver in it is eaten.

Dermal contact

Silver can enter your body through your skin when you put your hands into solutions containing silver compounds or when you come in contact with silver-containing powders.

Leave your body

Most of the silver that is eaten or breathed in leaves the body in the feces within about a week. Very little passes through the urine. It is not known how much of the silver that enters the body through the skin leaves the body. Some of the silver that is eaten, inhaled, or passes through the skin may build up in many places in the body.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp146.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Thallium

Description

Pure thallium is a soft, bluish-white metal

In its pure form, it is odorless and tasteless.

It can be found in pure form or mixed with other metals in the form of alloys. It can also be found combined with other substances such as bromine, chlorine, fluorine, and iodine to form salts. These combinations may appear colorless to white or yellow.

Thallium exists in two chemical states (thallous and thallic). The thallous state is the more common and stable form.

Sources

Thallium is widely distributed in trace amounts in the earth's crust.

Small amounts of thallium are released into the air from coal-burning power plants, cement factories, and smelting operations.

Breakdown

Thallium remains in the environment since it is a metal and cannot be broken down to simpler substances.

We do not know how much time it takes for thallium to move from one medium to another.

HOW CAN THALLIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Breathing in thallium from the air can enter the body through the lungs.

Ingestion

Thallium can enter your body when you eat food or drink water contaminated with thallium. When thallium is swallowed most of it is absorbed and rapidly goes to various parts of your body, especially the kidney and liver.

Dermal contact

Thallium can enter your body when your skin comes in contact with it.

Leave your body

Thallium leaves your body slowly. Most of the thallium leaves your body in urine and to a lesser extent in feces. It can be found in urine within 1 hour after exposure. After 24 hours, increasing amounts are found in feces. It can be found in urine as long as 2 months after exposure. About half the thallium that enters various parts of your body leaves them within 3 days.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp54.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Vanadium

Description

Vanadium is a naturally occurring element. It is widely distributed in the earth's crust at an average concentration of approximately 100 mg/kg. Vanadium is found in about 65 different minerals.

Depending on its form, vanadium can be a gray-white metal or light gray or white lustrous powder. Pure vanadium is a bright white, soft, and ductile metal.

Sources

Vanadium occurs naturally in soil, water, and air. Natural sources of atmospheric vanadium include continental dust, marine aerosol, and volcanic emissions.

Releases of vanadium to the environment are mainly associated with industrial sources, especially oil refineries and power plants using vanadium rich fuel oil and coal. Global human-made atmospheric releases of vanadium have been estimated to be greater than vanadium releases due to natural sources. Natural releases to water and soil are far greater overall than human-made releases to the atmosphere.

Breakdown

Vanadium cannot be destroyed in the environment. It can only change its form or become attached or separated from airborne particulate, soil, particulate in water, and sediment.

Air

Vanadium particles in the air settle to the ground or are washed out of the air by rain. Smaller particles, such as those emitted from oil-fueled power plants, may stay in the air for longer times and are more likely to be transported farther away from the site of release.

Water and Soil

The transport and partitioning of vanadium in water and soil is influenced by many factors including acidity of the water or soil and the presence of particulates. Vanadium can either be dissolved in water as ions or may become adsorbed to particulate matter.

HOW CAN VANADIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Some of the vanadium you breathe will enter your body through your lungs; however, we do not know how much will enter.

Ingestion

A small amount of vanadium in food and water (3-20%) will enter your body through the digestive tract. The vanadium compounds you are exposed to will determine how much is absorbed.

Dermal contact

We do not know how much vanadium will enter your body through your skin. It is likely that very little will pass through the skin.

Leave your body

Vanadium that is not absorbed into the tissues will exit the body through urine and feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp58.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Zinc

Description

Zinc is one of the most common elements in the Earth's crust.

In its pure elemental (or metallic) form, zinc is a bluish-white, shiny metal.

Powdered zinc is explosive and may burst into flames if stored in damp places. Zinc can also combine with other elements, such as chlorine, oxygen, and sulfur, to form zinc compounds.

Sources

Zinc is found in the air, soil, and water and is present in all foods.

Most zinc enters the environment as the result of mining, purifying of zinc, lead, and cadmium ores, steel production, coal burning, and burning of wastes.

Breakdown

Zinc is an essential element needed by your body in small amounts and cannot be broken down by the environment.

Air

In air, zinc is present mostly as fine dust particles. This dust eventually settles over land and water. Rain and snow aid in removing zinc from air.

Water

Most of the zinc in lakes or rivers settles on the bottom. However, a small amount may remain either dissolved in water or as fine suspended particles.

Soil

Most of the zinc in soil is bound to the soil and does not dissolve in water.

HOW CAN ZINC ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Zinc can also enter through your lungs if you inhale zinc dust or fumes from zinc-smelting or zinc-welding operations on your job.

Ingestion

Zinc can enter the body through the digestive tract when you eat food or drink water containing it.

Dermal contact

The amount of zinc that passes directly through the skin is relatively small.

Leave your body

Zinc is stored throughout the body. Zinc increases in blood and bone most rapidly after exposure. Zinc may stay in the bone for many days after exposure. Normally, zinc leaves the body in urine and feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp60.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Additional Metals*:

Calcium (Ca)

A silver-white divalent metallic element of the alkaline-earth group that is found in most plants and animals and that is especially important in people for strong healthy bones.

<http://www.merriam-webster.com/dictionary/calcium>

Iron (Fe)

A silver-white malleable ductile magnetic heavy metallic element that readily rusts in moist air, occurs native in meteorites and combined in most igneous rocks, is the most used of metals, and is vital to biological processes.

<http://www.merriam-webster.com/dictionary/iron>

Magnesium (Mg)

A silver-white malleable ductile light metallic element that occurs abundantly in nature and is used in metallurgical and chemical processes, in photography, signaling, and pyrotechnics because of the intense white light it produces on burning, and in construction especially in the form of light alloys.

<http://www.merriam-webster.com/dictionary/magnesium>

Potassium (K)

A silver-white soft light low-melting monovalent metallic element of the alkali metal group that occurs abundantly in nature especially combined in minerals.

<http://www.merriam-webster.com/dictionary/potassium>

Sodium (Na)

A silver-white soft waxy ductile element of the alkali metal group that occurs abundantly in nature in combined form and is very active chemically. It is found in salt, baking soda, and other compounds.

<http://www.merriam-webster.com/dictionary/sodium>

ATTACHMENT 3A
INDOOR AIR DATA TABLES

Indoor Air Analytical Results
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Parameters	Home:	Indoor Air	Indoor Air		
	Field Sample ID:	MWF-METALS-027	MWF-METALS-029	MWF-METALS-223	MWF-METALS-224
	Sample Date:	6/18/2016	6/18/2016	7/5/2016	7/5/2016
	Laboratory Job Number:	82565	82565	83088	83088
	Sampling Height Above Floor			5.5-feet (Adult)	3-feet (Child)

Metals / NIOSH-7303(M)

Aluminum	µg/m ³	0.767 *	0.491 *	ND (<0.25)	ND (<0.25)
Antimony	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Arsenic	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Barium	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Beryllium	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Cadmium	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Calcium	µg/m ³	4.14 *	ND (<0.25)	0.404	ND (<0.25)
Chromium	µg/m ³	ND (<0.25)	0.519 *	ND (<0.25)	ND (<0.25)
Cobalt	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Copper	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Iron	µg/m ³	ND (<0.25)	3.85	ND (<0.25)	ND (<0.25)
Lead	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Magnesium	µg/m ³	ND (<0.25)	0.312	0.288	ND (<0.25)
Manganese	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Molybdenum	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Nickel	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Potassium	µg/m ³	0.683	ND (<0.25)	0.349	ND (<0.25)
Selenium	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Sodium	µg/m ³	3.33 *	0.763 *	0.717	0.524
Thallium	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Vanadium	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Zinc	µg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)

Notes:

Bold results exceed applicable limits for characteristic hazardous wastes

ND (<X) = constituents(s) not detected at or above method detection limit

* = Trace level of target analyte was detected in the associated field blank and the result was adjusted by field blank concentration.


J = analyte was detected. However, analyte concentration is an estimated value which is between the method detection limit (MDL) and the practical quantitation limit (PQL).

µg/kg = microgram per kilogram

µg/m³ = microgram per cubic meter

ATTACHMENT 3B
DUST DATA TABLES

MicroVac Analytical Results
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Parameters	Home:	
	Field Sample ID:	MWF-VAC-325
	Sample Date:	7/5/2016
	Laboratory Job Number:	83087
Metals / NIOSH-7303(M)		
Aluminum	$\mu\text{g}/\text{m}^2$	224
Antimony	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Arsenic	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Barium	$\mu\text{g}/\text{m}^2$	26.6
Beryllium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Cadmium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Calcium	$\mu\text{g}/\text{m}^2$	594
Chromium	$\mu\text{g}/\text{m}^2$	3.5
Cobalt	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Copper	$\mu\text{g}/\text{m}^2$	12.18
Iron	$\mu\text{g}/\text{m}^2$	432
Lead	$\mu\text{g}/\text{m}^2$	7.74
Magnesium	$\mu\text{g}/\text{m}^2$	218
Manganese	$\mu\text{g}/\text{m}^2$	8.28
Molybdenum	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Nickel	$\mu\text{g}/\text{m}^2$	3.38
Potassium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Selenium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Sodium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Thallium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Vanadium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Zinc	$\mu\text{g}/\text{m}^2$	60.8

Notes:

Bold results exceed applicable limits for characteristic hazardous wastes.

ND (<X) = constituents(s) not detected at or above method detection limit

* = Trace level of target analyte was detected in the associated field blank and the result was adjusted by field blank concentration.

$\mu\text{g}/\text{m}^2$ = microgram per square meter

ATTACHMENT 3C
SOIL DATA TABLES

Soil Analytical Results
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Parameters	Home:		
	Location:	Backyard	Front Yard
	Field Sample ID:	061820163559B	061820163559F
	Sample Date:	6/18/2016	6/18/2016
	Laboratory Job Number:	16-06-1422	16-06-1422
Total Metals / SW846-6010B / 7471A			
Aluminum	mg/kg	4,950	8,730
Antimony	mg/kg	ND (<0.725)	ND (<0.758)
Arsenic	mg/kg	ND (<0.725)	2.82
Barium	mg/kg	94.5	114
Beryllium	mg/kg	ND (<0.242)	0.302
Cadmium	mg/kg	0.655	0.824
Calcium	mg/kg	1,950	5,210
Chromium	mg/kg	3.73	11.4
Cobalt	mg/kg	3.4	7.14
Copper	mg/kg	46.1	21.9
Iron	mg/kg	9,630	15,700
Lead	mg/kg	41.5	28.2
Magnesium	mg/kg	2,810	4,750
Manganese	mg/kg	176	292
Mercury	mg/kg	ND (<0.0833)	ND (<0.0847)
Nickel	mg/kg	6.54	9.71
Potassium	mg/kg	2,060	3,390
Selenium	mg/kg	ND (<0.725)	ND (<0.758)
Silver	mg/kg	ND (<0.242)	ND (<0.253)
Sodium	mg/kg	151	199
Thallium	mg/kg	ND (<0.725)	ND (<0.758)
Vanadium	mg/kg	11.2	26.6
Zinc	mg/kg	147	134

Notes:

Bold results exceed RSL concentrations for residential soil

* The RSL for arsenic is significantly less than the

† RSL for Cr (III) used in place of total Cr; the RSL for Cr (VI) is 0.3 mg/kg

ND (<X) = constituents(s) not detected at or above method detection limit

mg/kg = milligram per kilogram

mg/L = milligram per liter

RSL = Regional Screening Level

ATTACHMENT 4
HEALTH OFFICER DETERMINATION FORM

Information needed by the County of Los Angeles Health Officer for determination of safe re-occupation:

1. Address of the property subject to the Health Officer Order
[REDACTED]
2. Description of the visible damage due the incident, including whether fire ash was observed on the property
Fire ash observed on exterior of property.
3. Analytical results from activity based air sampling

Metal	Action Level* ($\mu\text{g}/\text{m}^3$)	Child Analytical Data ¹ ($\mu\text{g}/\text{m}^3$) (MWF-METALS-224)	Adult Analytical Data ² ($\mu\text{g}/\text{m}^3$) (MWF-METALS-223)
Sample Date		7/5/2016	7/5/2016
Chromium (based on CrVI)	0.5	ND <0.25	ND <0.25
Copper	5.0	ND <0.25	ND <0.25
Magnesium	7.0	ND <0.25	0.288
Zinc	120	ND <0.25	ND <0.25

Notes:

All values are estimated until final validation

ND = Analyte not detected above method detection limit

CrVI = Hexavalent Chromium

$\mu\text{g}/\text{m}^3$ = micrograms per meter cubed

* site specific re-occupancy level

¹ = sample collected from 3-feet above floor

² = sample collected from 5-feet above floor

4. Analytical results from micro-vacuum dust sampling

Metal	Action Level* ($\mu\text{g}/\text{m}^2$)	Analytical Data ($\mu\text{g}/\text{m}^2$) (MWF-VAC-325)
Sample Date		7/5/2016
Chromium (based on CrVI)	1,100	3.5
Copper	15,000	12.18
Magnesium	97,000,000	218
Zinc	117,000	60.8

Notes:

All values are estimated until final validation

ND = Analyte not detected above method detection limit

CrVI = Hexavalent Chromium

$\mu\text{g}/\text{m}^2$ = micrograms per meter squared

* site specific re-occupancy level

5. Any clean-up or other risk-mitigation measures completed
Indoor cleaning completed by Servpro on 6-30-16.
Ash Cleanup Assessment Team (ACAT) signed off on outdoor cleanup of property on 7-08-16.

Screening Indoor Air Sampling Results

Sample ID	Units	Site Specific Screening Level	Screening Indoor Air Sampling – Child ¹	Screening Indoor Air Sampling – Adult ²
			(MWF-METALS-027)	(MWF-METALS-029)
Sample Date			6/18/2016	6/18/2016
Aluminum	ug/m3	–	1.04	0.771
Antimony	ug/m3	–	ND<0.25	ND<0.25
Arsenic	ug/m3	–	ND<0.25	ND<0.25
Barium	ug/m3	–	ND<0.25	ND<0.25
Beryllium	ug/m3	–	ND<0.25	ND<0.25
Cadmium	ug/m3	–	ND<0.25	ND<0.25
Calcium	ug/m3	–	5.10	1.08
Chromium	ug/m3	0.5	ND<0.25	0.519
Cobalt	ug/m3	–	ND<0.25	ND<0.25
Copper	ug/m3	5	ND<0.25	ND<0.25
Iron	ug/m3	–	ND<0.25	3.85
Lead	ug/m3	–	ND<0.25	ND<0.25
Magnesium	ug/m3	7	ND<0.25	0.312
Manganese	ug/m3	–	ND<0.25	ND<0.25
Molybdenum	ug/m3	–	ND<0.25	ND<0.25
Nickel	ug/m3	–	ND<0.25	ND<0.25
Potassium	ug/m3	–	0.683	ND<0.25
Selenium	ug/m3	–	ND<0.25	ND<0.25
Sodium	ug/m3	–	5.00	2.47
Thallium	ug/m3	–	ND<0.25	ND<0.25
Vanadium	ug/m3	–	ND<0.25	ND<0.25
Zinc	ug/m3	120	ND<0.25	ND<0.25

Notes:

All values are estimated until final validation

ND = Analyte not detected

ug/m3 = micrograms per meter cubed

1 = sample collected 3-feet above floor

2 = sample collected 5-feet above floor

ATTACHMENT 5
PHOTO DOCUMENTATION



Project Name: Fruitland Magnesium Fire Site		Site Location: <div style="background-color: black; width: 150px; height: 1.2em; display: inline-block;"></div> Maywood, Los Angeles County, CA	TDD No.: 0002/1302-T2-R9-16-06-0001
Photo No. 1	Date: 7/5/2016		
Direction Photo Taken: North			
Description: MicroVac Composite Dust sampling, location 3, living room, high traffic area.			

Photo No. 2	Date: 7/5/2016	
Direction Photo Taken: North		
Description: MicroVac Composite Dust sampling, location 2, doorway.		

ATTACHMENT 6
SERVPRO CLEANING REPORT

ATTACHMENT 1
OUTDOOR CHECKLIST



Outdoor Residential Cleanup Check List

Address	[REDACTED]	
Resident/Owner	[REDACTED]	
Task	Date Completed	
Consent for Access to Property form signed	6-18-16	
Visible Ash Assessment	6-26-16	
Consultation with resident	6-26-16	
Pre-cleanup photo documentation	6-26-16	
Clean-up	6-30-16	
Post-cleanup photo documentation	7-8-16	
	Date	Signature
ACAT Referral to UC	7-8-16	[Signature]
UC Representative Approval		
U.S. EPA/USCG	7-8-16	[Signature]
LA County Fire HHMD	7-8-16	[Signature]
LA County DPH	7/8/16	[Signature]
Resident/Owner Walk-thru and Approval	7/9/16	[REDACTED]

ATTACHMENT 2
METALS INFORMATION

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Aluminum

Description

Aluminum is the most abundant metal in the earth's crust and it is widely distributed.

Aluminum is a very reactive element and is never found as the free metal in nature. It is found combined with other elements, most commonly with oxygen, silicon, and fluorine. These chemical compounds are commonly found in soil, minerals (e.g., sapphires, rubies, turquoise), rocks (especially igneous rocks), and clays.

Aluminum as the metal is obtained from aluminum-containing minerals, primarily bauxite.

Aluminum metal is light in weight and silvery-white in appearance.

Sources

Aluminum occurs naturally in soil, water, and air. High levels in the environment can be caused by the mining and processing of aluminum ores or the production of aluminum metal, alloys, and compounds.

Small amounts of aluminum are released into the environment from coal-fired power plants and incinerators.

Breakdown

Aluminum cannot be destroyed in the environment. It can only change its form or become attached or separated from particles.

Air

Aluminum particles in air settle to the ground or are washed out of the air by rain. However, very small aluminum particles can stay in the air for many days.

Water and soil

Most aluminum-containing compounds do not dissolve to a large extent in water unless the water is acidic or very alkaline.

HOW CAN ALUMINUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

A small amount of the aluminum you breathe will enter your body through your lungs.

Ingestion

A very small amount of the aluminum in food or water will enter your body through the digestive tract. An extremely small amount of the aluminum found in antacids will be absorbed.

Dermal

A very small amount may enter through your skin when you come into contact with aluminum

Leave your body

Most aluminum in food, water, and medicines leaves your body quickly in the feces. Much of the small amount of aluminum that does enter the bloodstream will quickly leave your body in the urine.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp22.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Antimony

Description

Antimony is a silvery white metal of medium hardness that breaks easily. Small amounts of antimony are found in the earth's crust. Antimony ores are mined and then either changed into antimony metal or combined with oxygen to form antimony oxide.

Antimony oxide is a white powder that does not evaporate. Only a small amount of it will dissolve in water. Most antimony oxide produced is added to textiles and plastics to prevent their catching on fire.

Antimony metal is too easily broken to be used much by itself. To make it stronger, a little antimony is usually mixed with other metals such as lead and zinc to form mixtures of metals called alloys. These alloys are used in lead storage batteries, solder, sheet and pipe metal, bearings, castings, type metal, ammunition, and pewter.

Sources

Antimony is found at very low levels in the environment, so low that we often cannot measure it. You may be exposed to antimony by breathing air, drinking water, and eating foods that contain it. You also may be exposed by skin contact with soil, water, and other substances that contain antimony.

Antimony enters the environment during the mining and processing of its ores and in the production of antimony metal, alloys, antimony oxide, and combinations of antimony with other substances. Little or no antimony is mined in the United States. Antimony ore and impure metals are brought into this country from other countries for processing. Most antimony will end up in the soil or sediment, where it attaches strongly to particles that contain iron, manganese, or aluminum.

Breakdown

The antimony that comes out of the smoke stacks of these plants is attached to very small particles that settle to the ground or are washed out of the air by rain. It usually takes many days for antimony to be removed from the air. Antimony attached to very small particles may stay in the air for more than a month.

HOW CAN ANTIMONY ENTER AND LEAVE MY BODY?

Enter your body

Antimony can enter your body when you drink water or eat food, soil, or other substances that contain antimony. Antimony can also enter your body if you breathe air or dust containing antimony. We do not know if antimony can enter your body when it is placed on your skin.

Leave your body

A small amount of the antimony you eat or drink enters the blood after a few hours. The amount and the form of antimony in the food or water will affect how much antimony enters your blood. After you eat or drink very large doses of antimony, you may vomit. This will prevent most of the antimony from entering through the stomach and intestines into your blood. Antimony in your lungs will enter your blood after several days or weeks. The amount of antimony that will enter your blood from your lungs is not known.

After antimony enters your blood, it goes to many parts of your body. Most of the antimony goes to the liver, lungs, intestines, and spleen. Antimony will leave your body in feces and urine over several weeks.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp23.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Arsenic

Description

Arsenic is classified chemically as a metalloid, having both properties of a metal and a nonmetal; however, it is frequently referred to as a metal. Elemental arsenic (sometimes referred to as metallic arsenic) is a steel grey solid material.

However, arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur. Arsenic combined with these elements is called inorganic arsenic. Arsenic combined with carbon and hydrogen is referred to as organic arsenic.

Most inorganic and organic arsenic compounds are white or colorless powders that do not evaporate. They have no smell, and most have no special taste. Thus, you usually cannot tell if arsenic is present in your food, water, or air.

Inorganic arsenic occurs naturally in soil and in many kinds of rock, especially in minerals and ores that contain copper or lead. When these ores are heated in smelters, most of the arsenic goes up the stack and enters the air as a fine dust. Smelters may collect this dust and take out the arsenic as a compound called arsenic trioxide (As₂O₃).

Sources

Arsenic occurs naturally in soil and minerals and it therefore may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching. Volcanic eruptions are another source of arsenic.

Arsenic is associated with ores containing metals, such as copper and lead. Arsenic may enter the environment during the mining and smelting of these ores. Small amounts of arsenic also may be released into the atmosphere from coal-fired power plants and incinerators because coal and waste products often contain some arsenic.

Food is usually the largest source of arsenic. The predominant dietary source of arsenic is seafood, followed by rice/rice cereal, mushrooms, and poultry.

Breakdown

Arsenic cannot be destroyed in the environment. It can only change its form, or become attached to or separated from particles. It may change its form by reacting with oxygen or other molecules present in air, water, or soil, or by the action of bacteria that live in soil or sediment. Ultimately, most arsenic ends up in the soil or sediment.

HOW CAN ARSENIC ENTER AND LEAVE MY BODY?

Enter your body

If you swallow arsenic in water, soil, or food, most of the arsenic may quickly enter into your body. If you breathe air that contains arsenic dusts, many of the dust particles settle onto the lining of the lungs. Most of the arsenic in these particles is then taken up from the lungs into the body. You might be exposed in this way near waste sites where arsenic-contaminated soils are allowed to blow into the air, or if you work with arsenic-containing soil or products. If you get arsenic-contaminated soil or water on your skin, only a small amount will go through your skin into your body, so this is usually not of concern.

Leave your body

Both inorganic and organic forms leave your body in your urine. Most of the inorganic arsenic will be gone within several days, although some will remain in your body for several months or even longer. If you are exposed to organic arsenic, most of it will leave your body within several days.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp2.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Barium

Description

Barium is a silvery-white metal that takes on a silver-yellow color when exposed to air.

Barium occurs in nature in many different forms called compounds. These compounds are solids, existing as powders or crystals, and they do not burn well. Two forms of barium, barium sulfate and barium carbonate, are often found in nature as underground ore deposits.

Other barium compounds, such as barium chloride, barium nitrate, and barium hydroxide, are manufactured from barium sulfate.

Barium compounds such as barium acetate, barium chloride, barium hydroxide, barium nitrate, and barium sulfide dissolve more easily in water than barium sulfate and barium carbonate, but because they are not commonly found in nature, they do not typically end up in drinking water unless the water is contaminated by barium compounds that are released from waste sites.

Sources

Barium is sometimes found naturally in drinking water and food.

Background levels of barium in the environment are very low. The air that most people breathe contains about 0.0015 parts of barium per billion parts of air (ppb).

Barium sulfate ore is mined and used in several industries. It is used mostly by the oil and gas industries to make drilling muds. Drilling muds make it easier to drill through rock by keeping the drill bit lubricated. Barium sulfate is also used to make paints, bricks, tiles, glass, rubber, and other barium compounds. Some barium compounds, such as barium carbonate, barium chloride, and barium hydroxide, are used to make ceramics, insect and rat poisons, and additives for oils and fuels; in the treatment of boiler water; in the production of barium greases; as a component in sealants, paper manufacturing, and sugar refining; in animal and vegetable oil refining; and in the protection of objects made of limestone from deterioration. Barium sulfate is sometimes used by doctors to perform medical tests and take x-ray photographs of the stomach and intestines.

Breakdown

Barium compounds that do not dissolve well in water, such as barium sulfate and barium carbonate, can persist for a long time in the environment. Barium compounds, such as barium chloride, barium nitrate, or barium hydroxide, that dissolve easily in water usually do not last in these forms for a long time in the environment. The barium in these compounds that is dissolved in water quickly combines with sulfate or carbonate that are naturally found in water and become the longer lasting forms (barium sulfate and barium carbonate). Barium sulfate and barium carbonate are the barium compounds most commonly found in the soil and water. If barium sulfate and barium carbonate are released onto land, they will combine with particles of soil.

HOW CAN BARIUM ENTER AND LEAVE MY BODY?

Enter your body

Barium enters your body when you breathe air, eat food, or drink water containing barium. It may also enter your body to a small extent when you have direct skin contact with barium compounds. The amount of barium that enters the bloodstream after you breathe, eat, or drink it depends on the barium compound. Some barium compounds that are soluble, such as barium chloride, can enter bloodstream more easily than insoluble barium compounds such as barium sulfate. Some barium compounds (for example, barium chloride) can enter your body through your skin.

Leave your body

Barium that enters your body by breathing, eating, or drinking is removed mainly in feces and urine. Most of the barium that enters your body is removed within 1–2 weeks. Most of the small amount of barium that stays in your body goes into the bones and teeth.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp24.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Beryllium

Description

Beryllium is an element that occurs naturally. It is present in a variety of materials, such as rocks, coal and oil, soil, and volcanic dust.

Two kinds of mineral rocks, bertrandite and beryl, are mined commercially for the recovery of beryllium.

Very pure gem-quality beryl is better known as either aquamarine (blue or blue-green) or emerald (green).

Beryllium is the lightest metal. A key distinction among beryllium compounds is that some are soluble in water, but many are not.

Sources

Beryllium enters the air, water, and soil as a result of natural and human activities. Emissions from burning coal and oil increase beryllium levels in the air.

Beryllium in water comes from different sources. Most of it comes from dissolving beryllium out of rocks and soil that water runs over and through. Only a very small part is from the settling of beryllium dust out of the air.

Breakdown

Air

Very small dust particles of beryllium in the air fall out of the air onto surface water, plant surfaces, and soil either by themselves or when rain or snow falls.

Water and Soil

These beryllium particles eventually end up back in the soil or in the bottoms of lakes, rivers, and ponds, where they stay and mix with beryllium that is already there.

HOW CAN BERYLLIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Beryllium can enter your body if you breathe air containing it. When you breathe air containing beryllium, beryllium particles can be deposited in the lungs.

Ingestion

Beryllium can enter your body if you eat food or drink water containing it.

Dermal Contact

Beryllium will not enter your body from skin contact with the metal unless the skin is scraped or cut and beryllium particles become imbedded in the wound. Only a small amount of beryllium may enter your body if your skin comes into contact with a beryllium salt dissolved in water.

Leave your body

The beryllium that you breathe in slowly dissolves in the lungs and moves slowly into the bloodstream. Some of the beryllium deposited in the lungs can be moved to the mouth and then swallowed; the rest can remain in your lungs for a long time. Therefore, most of the beryllium that you swallow leaves your body through the feces without entering the bloodstream.

The small amount of beryllium that moves from the lungs, stomach, and intestines into the bloodstream is carried by the blood to the kidneys. Beryllium leaves the kidneys by the urine. Some beryllium can also be carried by the blood to the liver and bones where it may remain for long periods.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp4.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Cadmium

Description

Metal found in the earth's crust, associated with zinc, lead, and copper ores.

Pure cadmium is a soft, silver-white metal. Cadmium chloride and cadmium sulfate are soluble in water.

Most cadmium used in the United States is extracted as a byproduct during the production of other metals such as zinc, lead, or copper. Cadmium is also recovered from used batteries.

Sources

Cadmium is emitted to soil, water, and air by non-ferrous metal mining and refining, manufacture and application of phosphate fertilizers, fossil fuel combustion, and waste incineration and disposal.

Cadmium can accumulate in aquatic organisms and agricultural crops.

Breakdown

Air

Cadmium (as oxide, chloride, and sulfate) will exist in air as particles or vapors (from high temperature processes). It can be transported long distances in the atmosphere, where it will deposit (wet or dry) onto soils and water surfaces.

Soil

Cadmium and its compounds may travel through soil, but its mobility depends on several factors such as pH and amount of organic matter, which will vary depending on the local environment. Generally, cadmium binds strongly to organic matter where it will be immobile in soil and be taken up by plant life, eventually, entering the food supply.

Water

Cadmium exists as the hydrated ion or as ionic complexes with other inorganic or organic substances. Soluble forms migrate in water. Insoluble forms of cadmium are immobile and will deposit and absorb to sediments.

HOW CAN CADMIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

About 5-50% of the cadmium you breathe will enter your body through your lungs.

Ingestion

A small amount of the cadmium in food and water (about 1-10%) will enter your body through the digestive tract. If you do not have enough iron or other nutrients in your diet, you are likely to take up more cadmium from your food than usual.

Dermal contact

Virtually no cadmium enters your body through your skin.

Leave your body

Most of the cadmium that enters your body goes to your kidney and liver and can remain there for many years. A small portion of the cadmium that enters your body leaves slowly in urine and feces.

Your body can change most cadmium to a form that is not harmful, but too much cadmium can overload the ability of your liver and kidney to change the cadmium to a harmless form.

Reference

<http://www.atsdr.cdc.gov/toxprofiles/tp5.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Chromium

Description

Chromium is a naturally-occurring element found in rocks, animals, plants, and soil, where it exists in combination with other elements to form various compounds.

The three main forms of chromium are: chromium (0), chromium (III), and chromium (VI).

Small amounts of chromium (III) are needed for human health.

Sources

Chromium can be found in air, soil, and water after release from industries that use chromium, such as industries involved in electroplating, leather tanning, textile production, and the manufacture of chromium-based products.

Chromium can also be released into the environment from the burning of natural gas, oil, or coal.

Breakdown

Air

Chromium does not usually remain in the atmosphere, but is deposited into the soil and water.

Water and Soil

Chromium can change from one form to another in water and soil, depending on the conditions present.

HOW CAN CHROMIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

When you breathe air containing chromium, some of the chromium will enter your body through your lungs. Some forms of chromium can remain in the lungs for several years or longer.

Ingestion

A small percentage of ingested chromium will enter the body through the digestive tract.

Dermal contact

When your skin comes in contact with chromium, small amounts of chromium will enter your body.

Leave your body

Chromium(VI) is changed to chromium(III) in the body. Most of the chromium leaves the body in the urine within a week, although some may remain in cells for several years or longer.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp7.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Cobalt

Description

Small amounts of cobalt are naturally found in most rocks, soil, water, plants, and animals, typically in small amounts. Cobalt is also found in meteorites.

Elemental cobalt is a hard, silvery grey metal.

However, cobalt is usually found in the environment combined with other elements such as oxygen, sulfur, and arsenic. Small amounts of these chemical compounds can be found in rocks, soil, plants, and animals.

Cobalt can also exist in radioactive forms. ⁶⁰Co is the most important radioisotope of cobalt.

Sources

It may enter air and water, and settle on land from windblown dust, seawater spray, volcanic eruptions, and forest fires and may additionally get into surface water from runoff and leaching when rainwater washes through soil and rock containing cobalt.

Soils near ore deposits, phosphate rocks, or ore smelting facilities, and soils contaminated by airport traffic, highway traffic, or other industrial pollution may contain high concentrations of cobalt.

Breakdown

Cobalt cannot be destroyed in the environment. It can only change its form or become attached or separated from particles.

Air

Cobalt contained in windborne soil is generally found in larger particles than those released from power plants. These large particles settle to the ground or are washed out of the air by rain. Cobalt that is attached to very small particles may stay in the air for many days.

Water and Sediment

Cobalt released into water may stick to particles in the water column or to the sediment at the bottom of the body of water into which it was released, or remain in the water column in ionic form.

Cobalt deposited on soil is often strongly attached to soil particles and therefore would not travel very far into the ground.

HOW CAN COBALT ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Cobalt can enter your body when you breathe in air containing cobalt dust.

Ingestion

Cobalt can be ingested when you drink water that contains cobalt, when you eat food that contains cobalt.

Dermal contact

Cobalt enters the body when your skin touches materials that contain cobalt.

Leave your body

Once cobalt enters your body, it is distributed into all tissues, but mainly into the liver, kidney, and bones. After cobalt is breathed in or eaten, some of it leaves the body quickly in the feces. The rest is absorbed into the blood and then into the tissues throughout the body. The absorbed cobalt leaves the body slowly, mainly in the urine. Studies have shown that cobalt does not readily enter the body through normal skin, but it can if the skin has been cut.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp33.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Copper

Description

Copper is a reddish metal that occurs naturally in rock, soil, water, sediment, and, at low levels, air.

Copper also occurs naturally in all plants and animals. It is an essential element for all known living organisms including humans and other animals at low levels of intake.

Metallic copper can be easily molded or shaped. The elemental color of copper is red and copper compounds can be recognized by their blue-green color.

Sources

Copper can enter the environment through releases from the mining of copper and other metals, and from factories that make or use copper metal or copper compounds.

Copper can also enter the environment through waste dumps, domestic waste water, combustion of fossil fuels and wastes, wood production, phosphate fertilizer production, and natural sources (for example, windblown dust, from native soils, volcanoes, decaying vegetation, forest fires, and sea spray).

Breakdown

Elemental copper does not break down in the environment.

Air

Copper is carried on particles emitted from smelters and ore processing plants, and is then carried back to earth through gravity or in rain or snow. Copper is also carried into the air on windblown metallurgical dust.

Water

When copper and copper compounds are released into water, the copper that dissolves can be carried in surface waters either in the form of copper compounds or as free copper or, more likely, copper bound to particles suspended in the water.

Soil

When copper is released into soil, it can become strongly attached to the organic material and other components (e.g., clay, sand, etc.) in the top layers of soil and may not move very far when it is released.

HOW CAN COPPER ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Copper can also enter your body if you breathe air or dust containing copper.

Ingestion

Copper can enter your body when you drink water or eat food, soil, or other substances that contain copper.

Dermal contact

We do not know how much copper enters the body through the skin.

Leave your body

Copper rapidly enters the bloodstream and is distributed throughout the body after you eat or drink it. Your body is very good at blocking high levels of copper from entering the bloodstream. We do not know how much copper enters the body through the lungs or skin. Copper then leaves your body in feces and urine, mostly in feces. It takes several days for copper to leave your body.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp132.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Lead

Description

Lead is a heavy, low melting, bluish-gray metal that occurs naturally in the Earth's crust.

However, it is rarely found naturally as a metal. It is usually found combined with two or more other elements to form lead compounds.

Metallic lead is resistant to corrosion (i.e., not easily attacked by air or water). When exposed to air or water, thin films of lead compounds are formed that protect the metal from further attack.

Lead is easily molded and shaped. Lead can be combined with other metals to form alloys.

Sources

Lead occurs naturally in the environment. However, most of the high levels found throughout the environment come from human activities.

Lead can enter the environment through releases from mining lead and other metals, and from factories that make or use lead, lead alloys, or lead compounds. Lead is released into the air during burning coal, oil, or waste. Before the use of leaded gasoline was banned, most of the lead released into the U.S. environment came from vehicle exhaust.

Breakdown

Some lead compounds are changed into other forms of lead by sunlight, air, and water. However, elemental lead cannot be broken down.

Air

Lead is removed from the air by rain and by particles falling on land or into surface water.

Water and Soil

Lead may remain stuck to soil particles or sediment in water for many years. Movement of lead from soil particles into groundwater is unlikely unless the rain falling on the soil is acidic or "soft".

Once lead falls onto soil, it sticks strongly to soil particles and remains in the upper layer of soil.

HOW CAN LEAD ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Some of the lead that enters your body comes from breathing in dust or chemicals that contain lead. Once this lead gets into your lungs, it goes quickly to other parts of the body in your blood.

Ingestion

You may also swallow lead by eating food and drinking liquids that contain it.

Dermal contact

Dust and soil that contain lead may get on your skin, but only a small portion of the lead will pass through your skin and enter your blood if it is not washed off.

Leave your body

Shortly after lead gets into your body, it travels in the blood to the "soft tissues" and organs (such as the liver, kidneys, lungs, brain, spleen, muscles, and heart). After several weeks, most of the lead moves into your bones and teeth. Some of the lead can stay in your bones for decades. The lead that is not stored in your bones leaves your body in your urine or your feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp13.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Manganese

Description

Manganese is a naturally occurring substance found in many types of rocks and soil.

Pure manganese is a silver-colored metal; however, it does not occur in the environment as a pure metal. Rather, it occurs combined with other substances such as oxygen, sulfur, and chlorine.

Manganese is a trace element and is necessary for good health.

Sources

Manganese is a normal constituent of air, soil, water, and food.

Additional manganese can be found in air, soil, and water after release from the manufacture, use, and disposal of manganese-based products.

Breakdown

As with other elements, manganese cannot break down in the environment. It can only change its form or become attached or separated from particles.

Soil

The chemical state of manganese and the type of soil determine how fast it moves through the soil and how much is retained in the soil.

Water and sediment

In water, most of the manganese tends to attach to particles in the water or settle into the sediment.

The manganese-containing gasoline additive may degrade in the environment quickly when exposed to sunlight, releasing manganese.

HOW CAN MANGANESE ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

When you breathe air containing manganese, a small amount of the manganese will enter your body through your lungs and the remainder can become trapped in your lungs. Some of the manganese in your lungs can also be trapped in mucus which you may cough up and swallow into your stomach.

Ingestion

Manganese in food or water may enter your body through the digestive tract to meet your body's needs for normal functioning.

Dermal contact

Only very small amounts of manganese can enter your skin when you come into contact with liquids containing manganese.

Leave your body

Once in your body, manganese-containing chemicals can break down into other chemicals. However, manganese is an element that cannot be broken down. Most manganese will leave your body in feces within a few days.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp151.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Mercury

Description

Mercury occurs naturally in the environment and exists in several forms. These forms can be organized under three headings: metallic mercury, inorganic mercury, and organic mercury.

Metallic mercury is a shiny, silver-white metal that is a liquid at room temperature. Metallic mercury is the elemental or pure form of mercury. At room temperature, some of the metallic mercury will evaporate and form mercury vapors. Mercury vapors are colorless and odorless.

Inorganic mercury compounds occur when mercury combines with elements such as chlorine, sulfur, or oxygen. These mercury compounds are also called mercury salts. Most inorganic mercury compounds are white powders or crystals.

When mercury combines with carbon, the compounds formed are called "organic" mercury compounds or organomercurials. The most common forms of methylmercury and phenylmercury are white crystalline solids. Dimethylmercury, however, is a colorless liquid.

Sources

Mercury enters the environment as the result of the normal breakdown of minerals in rocks and soil from exposure to wind and water, and from volcanic activity.

Metallic and inorganic mercury enters the air from mining deposits of ores that contain mercury, from the emissions of coal-fired power plants, from burning municipal and medical waste, from the production of cement, and from uncontrolled releases in factories that use mercury.

Microorganisms (bacteria, phytoplankton in the ocean, and fungi) convert inorganic mercury to methylmercury. This form of mercury can result in bioaccumulation up the food chain especially in fish.

Breakdown

Air

In air, the mercury vapor can be changed into other forms of mercury, and can be further transported to water or soil in rain or snow.

Soil and Water

Mercury usually stays on the surface of sediments or soil and does not move through the soil to underground water. If mercury enters the water in any form, it is likely to settle to the bottom where it can remain for a long time.

HOW CAN MERCURY ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Mercury can enter your body by breathing in mercury vapors in the air.

Ingestion

Mercury can enter the body by swallowing or eating contaminated food or water.

Dermal contact

Mercury can enter the body by close contact with the skin.

Leave your body

Once inorganic mercury enters the body and gets into the bloodstream, it moves to many different tissues. Inorganic mercury leaves your body in the urine or feces over a period of several weeks or months.

Methylmercury can be changed by your body to inorganic mercury that can leave your body via feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp46.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Nickel

Description

Pure nickel is a hard, silvery-white metal, which has properties that make it very desirable for combining with other metals to form mixtures called alloys.

Many of these nickel compounds are water soluble (dissolve fairly easily in water) and have a characteristic green color.

Nickel and its compounds have no characteristic odor or taste.

Sources

Nickel combined with other elements occurs naturally in the earth's crust. It is found in all soil, and is also emitted from volcanoes.

In the environment, it is primarily found combined with oxygen or sulfur as oxides or sulfides. Nickel is also found in meteorites and on the ocean floor in lumps of minerals called sea floor nodules.

Nickel is released into the atmosphere during nickel mining and by industries that make or use nickel, nickel alloys, or nickel compounds. Nickel is also released into the atmosphere by oil-burning power plants, coal-burning power plants, and trash incinerators.

Breakdown

Air

Small particles of dust that settle to the ground or are taken out of the air in rain or snow. It usually takes many days for nickel to be removed from the air. If the nickel is attached to very small particles, it can take more than a month to settle out of the air.

Soil and Water

A lot of nickel released into the environment ends up in soil or sediment where it strongly attaches to particles containing iron or manganese. Under acidic conditions, nickel is more mobile in soil and might seep into groundwater.

HOW CAN NICKEL ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

If you breathe air that contains nickel, the amount of nickel you inhale that reaches your lungs and enters your blood depends on the size of the nickel particles.

Ingestion

More nickel will pass into your body through your stomach and intestines if you drink water containing nickel than if you eat food containing the same amount of nickel.

Dermal contact

A small amount of nickel can enter your bloodstream from skin contact.

Leave your body

After nickel gets into your body, it can go to all organs, but it mainly goes to the kidneys. The nickel that gets into your bloodstream leaves in the urine. After nickel is eaten, most of it leaves quickly in the feces, and the small amount that gets into your blood leaves in the urine.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp15.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Selenium

Description

Selenium, in its pure form of metallic gray to black crystals, is often referred to as elemental selenium or selenium dust. Elemental selenium is commercially produced, primarily as a by-product of copper refining.

Selenium is not often found in the environment in its elemental form, but is usually combined with sulfide minerals or with silver, copper, lead, and nickel minerals.

Selenium also combines with oxygen to form several substances that are white or colorless crystals.

Sources

Weathering of rocks and soils may result in low levels of selenium in water, which may be taken up by plants. Weathering also releases selenium into the air on fine dust-like particles.

Volcanic eruptions may release selenium in air. Selenium commonly enters the air from burning coal or oil. Selenium that may be present in fossil fuels combines with oxygen when burned, which may then react with water to form soluble selenium compounds.

Breakdown

As an element, selenium cannot be created or destroyed, although selenium can change forms in the environment.

Air

Airborne particles of selenium, such as in ash, can settle on soil or surface water.

Soil and Water

The forms and fate of selenium in soil depend largely on the acidity of the surroundings and its interaction with oxygen. In the absence of oxygen when the soil is acidic, the amount of selenium that can enter plants and organisms should be low.

Elemental selenium that cannot dissolve in water and other insoluble forms of selenium are less mobile and will usually remain in the soil, posing smaller risk of exposure. Selenium compounds that can dissolve in water are sometimes very mobile.

HOW CAN SELENIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Selenium in the air may also enter your body when you breathe it.

Ingestion

Selenium from the environment mainly enters the body when people eat food containing selenium.

Dermal contact

You should also be aware that selenium compounds, including those used in some medicated dandruff shampoos, are not easily absorbed through the skin.

Leave your body

Most of the selenium that enters the body quickly leaves the body, usually within 24 hours. Beyond what the body needs, selenium leaves mainly in the urine, but also in feces and breath.

Selenium can build up in the human body, however, if exposure levels are very high or if exposure occurs over a long time. It builds up mostly in the liver and kidneys but also in the blood, lungs, heart, and testes. Selenium can build up in the nails and in hair, depending on time and amount of exposure.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp92.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Silver

Description

Silver is rare but occurs naturally in the environment as a soft, "silver" colored metal. Because silver is an element, there are no manmade sources of silver.

It also occurs in powdery white (silver nitrate and silver chloride) or dark-gray to black compounds (silver sulfide and silver oxide).

Silver could be found at hazardous waste sites in the form of these compounds mixed with soil and/or water.

Silver is stable and remains in the environment in one form or another until it is taken out again by people. The form it is found in depends on environmental conditions.

Sources

The natural wearing down of silver-bearing rocks and soil by the wind and rain also releases large amounts of silver into the environment.

Photographic materials are the major source of the silver that is released into the environment.

Another source is mines that produce silver and other metals.

Breakdown

Because silver is an element, it does not break down, but it can change its form by combining with other substances. Over time it may change from the form first released, to metallic silver, and then back to the same or other compounds.

Silver that is released into the environment may be carried long distances in air and water. Rain washes silver compounds out of many soils so that it eventually moves into the groundwater.

HOW CAN SILVER ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Silver may enter your body after breathing air containing silver.

Ingestion

Silver may enter the body of a person is by drinking water that contains silver or eating food grown near the site in soil that contains silver. Silver can also enter the body when soil that has silver in it is eaten.

Dermal contact

Silver can enter your body through your skin when you put your hands into solutions containing silver compounds or when you come in contact with silver-containing powders.

Leave your body

Most of the silver that is eaten or breathed in leaves the body in the feces within about a week. Very little passes through the urine. It is not known how much of the silver that enters the body through the skin leaves the body. Some of the silver that is eaten, inhaled, or passes through the skin may build up in many places in the body.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp146.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Thallium

Description

Pure thallium is a soft, bluish-white metal

In its pure form, it is odorless and tasteless.

It can be found in pure form or mixed with other metals in the form of alloys. It can also be found combined with other substances such as bromine, chlorine, fluorine, and iodine to form salts. These combinations may appear colorless to white or yellow.

Thallium exists in two chemical states (thallous and thallic). The thallous state is the more common and stable form.

Sources

Thallium is widely distributed in trace amounts in the earth's crust.

Small amounts of thallium are released into the air from coal-burning power plants, cement factories, and smelting operations.

Breakdown

Thallium remains in the environment since it is a metal and cannot be broken down to simpler substances.

We do not know how much time it takes for thallium to move from one medium to another.

HOW CAN THALLIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Breathing in thallium from the air can enter the body through the lungs.

Ingestion

Thallium can enter your body when you eat food or drink water contaminated with thallium. When thallium is swallowed most of it is absorbed and rapidly goes to various parts of your body, especially the kidney and liver.

Dermal contact

Thallium can enter your body when your skin comes in contact with it.

Leave your body

Thallium leaves your body slowly. Most of the thallium leaves your body in urine and to a lesser extent in feces. It can be found in urine within 1 hour after exposure. After 24 hours, increasing amounts are found in feces. It can be found in urine as long as 2 months after exposure. About half the thallium that enters various parts of your body leaves them within 3 days.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp54.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Vanadium

Description

Vanadium is a naturally occurring element. It is widely distributed in the earth's crust at an average concentration of approximately 100 mg/kg. Vanadium is found in about 65 different minerals.

Depending on its form, vanadium can be a gray-white metal or light gray or white lustrous powder. Pure vanadium is a bright white, soft, and ductile metal.

Sources

Vanadium occurs naturally in soil, water, and air. Natural sources of atmospheric vanadium include continental dust, marine aerosol, and volcanic emissions.

Releases of vanadium to the environment are mainly associated with industrial sources, especially oil refineries and power plants using vanadium rich fuel oil and coal. Global human-made atmospheric releases of vanadium have been estimated to be greater than vanadium releases due to natural sources. Natural releases to water and soil are far greater overall than human-made releases to the atmosphere.

Breakdown

Vanadium cannot be destroyed in the environment. It can only change its form or become attached or separated from airborne particulate, soil, particulate in water, and sediment.

Air

Vanadium particles in the air settle to the ground or are washed out of the air by rain. Smaller particles, such as those emitted from oil-fueled power plants, may stay in the air for longer times and are more likely to be transported farther away from the site of release.

Water and Soil

The transport and partitioning of vanadium in water and soil is influenced by many factors including acidity of the water or soil and the presence of particulates. Vanadium can either be dissolved in water as ions or may become adsorbed to particulate matter.

HOW CAN VANADIUM ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Some of the vanadium you breathe will enter your body through your lungs; however, we do not know how much will enter.

Ingestion

A small amount of vanadium in food and water (3-20%) will enter your body through the digestive tract. The vanadium compounds you are exposed to will determine how much is absorbed.

Dermal contact

We do not know how much vanadium will enter your body through your skin. It is likely that very little will pass through the skin.

Leave your body

Vanadium that is not absorbed into the tissues will exit the body through urine and feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp58.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Metal

Zinc

Description

Zinc is one of the most common elements in the Earth's crust.

In its pure elemental (or metallic) form, zinc is a bluish-white, shiny metal.

Powdered zinc is explosive and may burst into flames if stored in damp places. Zinc can also combine with other elements, such as chlorine, oxygen, and sulfur, to form zinc compounds.

Sources

Zinc is found in the air, soil, and water and is present in all foods.

Most zinc enters the environment as the result of mining, purifying of zinc, lead, and cadmium ores, steel production, coal burning, and burning of wastes.

Breakdown

Zinc is an essential element needed by your body in small amounts and cannot be broken down by the environment.

Air

In air, zinc is present mostly as fine dust particles. This dust eventually settles over land and water. Rain and snow aid in removing zinc from air.

Water

Most of the zinc in lakes or rivers settles on the bottom. However, a small amount may remain either dissolved in water or as fine suspended particles.

Soil

Most of the zinc in soil is bound to the soil and does not dissolve in water.

HOW CAN ZINC ENTER AND LEAVE MY BODY?

Enter your body

Inhalation

Zinc can also enter through your lungs if you inhale zinc dust or fumes from zinc-smelting or zinc-welding operations on your job.

Ingestion

Zinc can enter the body through the digestive tract when you eat food or drink water containing it.

Dermal contact

The amount of zinc that passes directly through the skin is relatively small.

Leave your body

Zinc is stored throughout the body. Zinc increases in blood and bone most rapidly after exposure. Zinc may stay in the bone for many days after exposure. Normally, zinc leaves the body in urine and feces.

Reference

<http://www.atsdr.cdc.gov/ToxProfiles/tp60.pdf>

Attachment 2
Metals Information
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Additional Metals*:

Calcium (Ca)

A silver-white divalent metallic element of the alkaline-earth group that is found in most plants and animals and that is especially important in people for strong healthy bones.

<http://www.merriam-webster.com/dictionary/calcium>

Iron (Fe)

A silver-white malleable ductile magnetic heavy metallic element that readily rusts in moist air, occurs native in meteorites and combined in most igneous rocks, is the most used of metals, and is vital to biological processes.

<http://www.merriam-webster.com/dictionary/iron>

Magnesium (Mg)

A silver-white malleable ductile light metallic element that occurs abundantly in nature and is used in metallurgical and chemical processes, in photography, signaling, and pyrotechnics because of the intense white light it produces on burning, and in construction especially in the form of light alloys.

<http://www.merriam-webster.com/dictionary/magnesium>

Potassium (K)

A silver-white soft light low-melting monovalent metallic element of the alkali metal group that occurs abundantly in nature especially combined in minerals.

<http://www.merriam-webster.com/dictionary/potassium>

Sodium (Na)

A silver-white soft waxy ductile element of the alkali metal group that occurs abundantly in nature in combined form and is very active chemically. It is found in salt, baking soda, and other compounds.

<http://www.merriam-webster.com/dictionary/sodium>

ATTACHMENT 3A
INDOOR AIR DATA TABLES

Attachment 3a
Indoor Air Analytical Results
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Parameters	Home:	██████████	██████████	██████████	██████████	██████████
		Air				
	Field Sample ID:	MWF-METALS-021	MWF-METALS-400	Duplicate of MWF-METALS-400	MWF-METALS-401	Duplicate of MWF-METALS-401
	Sample Date:	6/17/2016	7/2/2016	7/2/2016	7/22/2016	7/2/2016
	Laboratory Job Number:	82565	82955	82955	82955	82955
	Sampling Height Above Floor		5.5-feet (Adult)	5.5-feet (Adult)	3-feet (Child)	3-feet (Child)
Metals / NIOSH-7303(M)						
Aluminum	μg/m ³	0.927	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Antimony	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Arsenic	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Barium	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	0.498	0.51
Beryllium	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Cadmium	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Calcium	μg/m ³	7.70 *	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Chromium	μg/m ³	0.323	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Cobalt	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Copper	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Iron	μg/m ³	1.1	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Lead	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Magnesium	μg/m ³	0.476	0.657	0.642	0.682	0.656
Manganese	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Molybdenum	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Nickel	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Potassium	μg/m ³	1.24	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Selenium	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Sodium	μg/m ³	4.38 *	2.69	2.9	2.48	2.46
Thallium	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Vanadium	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)
Zinc	μg/m ³	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)	ND (<0.25)

Notes:

Bold results exceed applicable limits for characteristic hazardous wastes

ND (<X) = constituents(s) not detected at or above method detection limit

* = Trace level of target analyte was detected in the associated field blank and the result was adjusted by field blank concentration.

J = analyte was detected. However, analyte concentration is an estimated value which is between the method detection limit (MDL) and the practical quantitation limit (PQL).

μg/kg = microgram per kilogram

μg/m³ = microgram per cubic meter

ATTACHMENT 3B
DUST DATA TABLES

MicroVac Analytical Results

Fruitland Magnesium Fire

Maywood, Los Angeles County, California

Parameters	Home:	
	Field Sample ID:	MWF-VAC-312
	Sample Date:	7/2/2016
	Laboratory Job Number:	83087
Metals / NIOSH-7303(M)		
Aluminum	$\mu\text{g}/\text{m}^2$	26.4
Antimony	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Arsenic	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Barium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Beryllium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Cadmium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Calcium	$\mu\text{g}/\text{m}^2$	89
Chromium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Cobalt	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Copper	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Iron	$\mu\text{g}/\text{m}^2$	41.4
Lead	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Magnesium	$\mu\text{g}/\text{m}^2$	27.6
Manganese	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Molybdenum	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Nickel	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Potassium	$\mu\text{g}/\text{m}^2$	30.8
Selenium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Sodium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Thallium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Vanadium	$\mu\text{g}/\text{m}^2$	ND (<1.5)
Zinc	$\mu\text{g}/\text{m}^2$	3

Notes:**Bold** results exceed applicable limits for characteristic hazardous wastes.

ND (<X) = constituents(s) not detected at or above method detection limit

* = Trace level of target analyte was detected in the associated field blank and the result was adjusted by field blank concentration.

 $\mu\text{g}/\text{m}^2$ = microgram per square meter

ATTACHMENT 3C
SOIL DATA TABLES

Soil Analytical Results
Fruitland Magnesium Fire
Maywood, Los Angeles County, California

Parameters	Home:				
	Location:	Front Yard	Front Yard	Backyard	Front Yard
	Field Sample ID:	061820163563F	Duplicate of 061820163563F	061820163536B	Reference sample collected from unimpacted soil
	Sample Date:	6/18/2016	6/18/2016	6/18/2016	6/18/2016
	Laboratory Job Number:	16-06-1422	16-06-1422	16-06-1422	16-06-1422
Total Metals / SW846-6010B / 7471A					
Aluminum	mg/kg	12,000	11,900	13,400	12,400
Antimony	mg/kg	ND (<0.754)	ND (<0.758)	ND (<0.743)	ND (<0.743)
Arsenic	mg/kg	2.62	3.96	2.47	3.13
Barium	mg/kg	183	174	279	188
Beryllium	mg/kg	0.315	0.304	0.349	0.329
Cadmium	mg/kg	1.41	1.41	3.47	1.7
Calcium	mg/kg	10,800	21,800	10,700	10,300
Chromium	mg/kg	20.1	19.1	26	21.5
Cobalt	mg/kg	10	9.59	11.2	10.7
Copper	mg/kg	43.3	41.8	72.7	50.2
Iron	mg/kg	18,400	18,400	21,700	19,400
Lead	mg/kg	158	152	247	191
Magnesium	mg/kg	6,660	6,400	9,220	6,680
Manganese	mg/kg	327	316	357	333
Mercury	mg/kg	0.252	ND (<0.0794)	1	0.161
Nickel	mg/kg	16.1	15.1	20.8	18.7
Potassium	mg/kg	4,610	4,580	5,400	5,070
Selenium	mg/kg	ND (<0.754)	ND (<0.758)	ND (<0.743)	ND (<0.743)
Silver	mg/kg	0.317	ND (<0.253)	0.465	ND (<0.248)
Sodium	mg/kg	597	646	676	312
Thallium	mg/kg	ND (<0.754)	ND (<0.758)	ND (<0.743)	ND (<0.743)
Vanadium	mg/kg	33.9	33.2	37.4	35.3
Zinc	mg/kg	261	255	451	309

Notes:

Bold results exceed RSL concentrations for residential soil

* The RSL for arsenic is
significantly less than the

† RSL for Cr (III) used in place of total Cr; the RSL for Cr (VI) is 0.3 mg/kg

ND (<X) = constituents(s) not detected at or above method detection limit

mg/kg = milligram per kilogram

mg/L = milligram per liter

RSL = Regional Screening Level

ATTACHMENT 4
HEALTH OFFICER DETERMINATION FORM

Information needed by the County of Los Angeles Health Officer for determination of safe re-occupation:

1. Address of the property subject to the Health Officer Order
[REDACTED]
2. Description of the visible damage due the incident, including whether fire ash was observed on the property
Fire ash observed on exterior of property.
3. Analytical results from activity based air sampling

Metal	Action Level* ($\mu\text{g}/\text{m}^3$)	Child Analytical Data ¹ ($\mu\text{g}/\text{m}^3$) (MWF-METALS-401)	Adult Analytical Data ² ($\mu\text{g}/\text{m}^3$) (MWF-METALS-400)
Sample Date		7/2/2016	7/2/2016
Chromium (based on CrVI)	0.5	ND <0.25	ND <0.25
Copper	5.0	ND <0.25	ND <0.25
Magnesium	7.0	0.682	0.657
Zinc	120	ND <0.25	ND <0.25

Notes:

All values are estimated until final validation

ND = Analyte not detected above method detection limit

CrVI = Hexavalent Chromium

$\mu\text{g}/\text{m}^3$ = micrograms per meter cubed

* site specific re-occupancy level

¹ = sample collected from 3-feet above floor

² = sample collected from 5-feet above floor

4. Analytical results from micro-vacuum dust sampling

Metal	Action Level* ($\mu\text{g}/\text{m}^2$)	Analytical Data ($\mu\text{g}/\text{m}^2$) (MWF-VAC-312)
Sample Date		7/2/2016
Chromium (based on CrVI)	1,100	ND <0.075
Copper	15,000	ND <0.075
Magnesium	97,000,000	27.6
Zinc	117,000	3

Notes:

All values are estimated until final validation

ND = Analyte not detected above method detection limit

CrVI = Hexavalent Chromium

$\mu\text{g}/\text{m}^2$ = micrograms per meter squared

* site specific re-occupancy level

5. Any clean-up or other risk-mitigation measures completed
Ash Cleanup Assessment Team (ACAT) signed off on outdoor cleanup of property on 7-08-16.

ATTACHMENT 5
PHOTO DOCUMENTATION

Project Name: Fruitland Magnesium Fire Site	Site Location: <div style="background-color: black; width: 150px; height: 1.2em; display: inline-block;"></div> Maywood, Los Angeles County, CA	TDD No.: 0002/1302-T2-R9-16-06-0001
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Photo No. 1	Date: 7/2/2016
Direction Photo Taken: West	
Description: MicroVac Composite Dust sampling, location 4, Kitchen, beneath sink/open window.	



Photo No. 2	Date: 7/2/2016
Direction Photo Taken: South	
Description: MicroVac Composite Dust sampling, location 3, hallway/high traffic area.	



ToxFAQs™ sobre el aluminio

CAS#: 7429-90-5

Esta hoja informativa responde las preguntas de salud más frecuentes acerca del aluminio. Para obtener más información, llame al Centro de Información de la ATSDR al 1-800-232-4636. Esta hoja informativa es parte de una serie de resúmenes acerca de sustancias peligrosas y sus efectos en la salud. Es importante que usted entienda esta información porque esta sustancia puede hacerle daño. Los efectos de la exposición a cualquier sustancia peligrosa dependen de la dosis, la duración, la manera en que usted fue expuesto, así como de sus características y hábitos personales, y de si hay o no otras sustancias químicas presentes.

Puntos importantes: Todo el mundo está expuesto a niveles bajos de aluminio en los alimentos, el aire, el agua y la tierra. La exposición a niveles altos de aluminio puede causar problemas respiratorios y neurológicos. El aluminio (en compuestos, combinado con otros elementos) se ha encontrado en al menos 596 de los 1699 sitios de la "Lista de prioridades nacionales" (NPL) identificados por la Agencia de Protección Ambiental (EPA).

¿Qué es el aluminio?

El aluminio es el metal más abundante en la corteza terrestre. Siempre se encuentra combinado con otros elementos como oxígeno, silicio y flúor. Como metal, el aluminio se obtiene de minerales que contienen aluminio. Se pueden encontrar pequeñas cantidades de aluminio disueltas en el agua.

El metal de aluminio es liviano y de color blanco-plateado. El aluminio se usa en envases de bebidas, ollas y sartenes, aviones, techos y revestimiento de viviendas y en papel de aluminio. A menudo se mezcla con pequeñas cantidades de otros metales para formar aleaciones de aluminio, las cuales son más duras y resistentes.

Los compuestos de aluminio tienen muchos usos diferentes; por ejemplo, como alumbre se usa en el tratamiento de aguas y como alúmina se usa en abrasivos y revestimientos de hornos. También se encuentran en productos de consumo tales como antiácidos, astringentes, aspirina amortiguada, aditivos para alimentos, cosméticos y desodorantes.

¿Qué ocurre con el aluminio cuando se libera en el medioambiente?

- El aluminio no puede ser destruido en el medioambiente, solamente puede cambiar de forma.
- En el aire, el aluminio se adhiere a partículas pequeñas que pueden permanecer suspendidas muchos días.
- Bajo la mayoría de las condiciones ambientales, una pequeña cantidad de aluminio se disuelve en lagos, arroyos y ríos.
- También puede ser incorporado desde la tierra por algunas plantas.
- El aluminio no se acumula de manera significativa en la mayoría de las plantas o animales.

¿Cómo podría exponerme al aluminio?

- Prácticamente todos los alimentos, el agua, el aire y la tierra contienen algo de aluminio.
- Un adulto promedio en los EE. UU. ingiere cerca de 7 a 9 miligramos (mg) de aluminio al día en los alimentos.
- Al respirar niveles altos de polvo de aluminio en el aire del lugar de trabajo.

- Al vivir en áreas donde el aire contenga polvo, donde el aluminio se extraiga o procese para convertirlo en metal de aluminio, cerca de ciertos sitios de desechos peligrosos o donde haya niveles naturalmente altos de aluminio.
- Al ingerir sustancias que contengan niveles altos de aluminio (como los antiácidos), especialmente cuando se coman o beban productos cítricos al mismo tiempo.
- Los niños y los adultos pueden estar expuestos a pequeñas cantidades de aluminio en las vacunas.
- Muy poca cantidad entra al cuerpo proveniente de los utensilios de cocina hechos de aluminio.

¿Cómo puede el aluminio afectar mi salud?

Solamente cantidades muy pequeñas de aluminio que se inhalen, ingieran o entren en contacto con la piel entrarán al torrente sanguíneo.

Por lo general, la exposición al aluminio no es perjudicial, pero la exposición a niveles altos puede afectar la salud. Los trabajadores que inhalen grandes cantidades de polvo de aluminio pueden tener problemas en los pulmones tales como tos o radiografías de tórax anormales. Algunos trabajadores que respiran polvo o gases de aluminio tienen un desempeño más bajo en algunas pruebas que miden funciones del sistema nervioso.

Algunas personas con enfermedades renales almacenan una gran cantidad de aluminio en su cuerpo y, a veces, contraen enfermedades de los huesos o del cerebro que pueden deberse al exceso de aluminio. Algunos estudios muestran que las personas expuestas a niveles altos de aluminio pueden presentar la enfermedad de Alzheimer, pero en otros estudios esto no se ha determinado que sea cierto. No se sabe con certeza si el aluminio causa la enfermedad de Alzheimer.

Los estudios en animales muestran que el sistema nervioso es un blanco sensible a la toxicidad del aluminio. No se observaron signos obvios de daños en animales después de haber recibido dosis orales altas de aluminio. Sin embargo,

Agency for Toxic Substances and Disease Registry
Division of Toxicology and Health Human Sciences



ToxFAQs™ sobre el aluminio

CAS#: 7429-90-5

los animales no se desempeñaron muy bien en las pruebas que midieron su fuerza al agarrar algo o cuánto se movilizaban.

No se sabe si el aluminio afecta la reproducción en los seres humanos. El aluminio no parece afectar la fertilidad en los animales.

¿Qué probabilidades hay de que el aluminio cause cáncer?

El Departamento de Salud y Servicios Humanos (DHHS) y la EPA no han evaluado el potencial carcinogénico del aluminio en los seres humanos. No se ha demostrado que el aluminio cause cáncer en los animales.

¿Cómo puede el aluminio afectar a los niños?

Los niños con problemas renales que recibieron aluminio en su tratamiento médico presentaron enfermedades de los huesos. Los niños no parecen ser más sensibles al aluminio que los adultos.

No se sabe si el aluminio causa defectos de nacimiento en los seres humanos. No se han observado defectos de nacimiento en los animales. Se ha demostrado que el aluminio en grandes cantidades puede ser nocivo para el feto y para los animales en desarrollo ya que puede causar retrasos en el desarrollo esquelético y neurológico.

El aluminio se encuentra en la leche materna, pero solo una pequeña cantidad pasará al cuerpo del bebé a través de la lactancia.

¿Cómo pueden las familias reducir el riesgo de exposición al aluminio?

- Debido a que el aluminio es tan común y se encuentra ampliamente distribuido en el medioambiente, las familias no pueden evitar la exposición a esta sustancia.
- Evite consumir grandes cantidades de antiácidos y de aspirinas amortiguadas que contengan aluminio y tome estos medicamentos como se lo indique el médico.

- Asegúrese de que todos los medicamentos tengan tapas a prueba de niños para que ellos no puedan ingerirlos accidentalmente.

¿Hay algún examen médico que determine si he estado expuesto al aluminio?

Todo el mundo tiene cantidades pequeñas de aluminio en el cuerpo. El aluminio puede medirse en la sangre, los huesos, las heces o la orina. La cantidad de aluminio medida en la orina y en la sangre puede indicar si usted ha estado expuesto a cantidades de aluminio mayores que lo normal. Medir el aluminio en los huesos también puede indicar exposición a niveles altos, pero esto requiere hacer una biopsia del hueso.

¿El gobierno federal ha hecho recomendaciones para proteger la salud de los seres humanos?

La EPA ha recomendado un nivel secundario de contaminante máximo (SMCL, por sus siglas en inglés) de 0.05 a 0.2 miligramos por litro (mg/L) para el aluminio en el agua potable. El SMCL no se basa en niveles que afectan a los seres humanos o a los animales. Se basa en el sabor, olor o color.

La Administración de Seguridad y Salud Ocupacional (OSHA) ha limitado la exposición de los trabajadores al aluminio en el polvo a 15 miligramos por metro cúbico (mg/m³) (polvo total) y 5 mg/m³ (fracción respirable) de aire en una jornada laboral de 8 horas, una semana laboral de 40 horas.

La Administración de Alimentos y Medicamentos (FDA) ha determinado que el aluminio que se usa como aditivo en alimentos y en medicamentos como los antiácidos es generalmente seguro.

Referencias

Agency for Toxic Substances and Disease Registry (ATSDR). 2008. Toxicological Profile for Aluminum. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

¿Dónde puedo obtener más información?

Si tiene preguntas o inquietudes, comuníquese con el departamento de salud o de control de calidad ambiental de su comunidad o estado, o...

Para obtener más información, comuníquese con la siguiente entidad:

Agency for Toxic Substances and Disease Registry
Division of Toxicology and Human Health Sciences
1600 Clifton Road NE, Mailstop F-57
Atlanta, GA 30329-4027
Teléfono: 1-800-CDC-INFO · 888-232-6348 (línea TTY)
Correo electrónico: Comuníquese con CDC-INFO
La Agencia para Sustancias Tóxicas y el Registro de Enfermedades (ATSDR) también puede decirle dónde encontrar centros de salud ocupacional y ambiental. Estas clínicas se especializan en el reconocimiento, la evaluación y el tratamiento de enfermedades causadas por la exposición a sustancias peligrosas.

Línea de información y asistencia técnica:
Teléfono: 888-422-8737

Para solicitar perfiles toxicológicos, comuníquese con la siguiente entidad:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Teléfono: 800-553-6847 o 703-605-6000

Descargo de responsabilidad

Algunos archivos PDF pueden ser conversiones electrónicas de una copia en papel u otros archivos electrónicos de texto ASCII. Estas conversiones pueden haber generado errores en la traducción de caracteres o de formato. Los usuarios deben remitirse a la copia original en papel del perfil toxicológico para obtener el texto, las cifras y las tablas oficiales. Las copias originales en papel se pueden obtener siguiendo las instrucciones que aparecen en la página principal de perfiles toxicológicos, que también contiene otra información importante acerca de los perfiles.

La información que aparece aquí era correcta al momento de su publicación. Por favor comuníquese con la agencia correspondiente para saber si hubo cambios a las regulaciones o directrices citadas.

Aluminum-ToxFAQs™

CAS # 7429-90-5

This fact sheet answers the most frequently asked health questions (FAQs) about aluminum. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Everyone is exposed to low levels of aluminum from food, air, water, and soil. Exposure to high levels of aluminum may result in respiratory and neurological problems. Aluminum (in compounds combined with other elements) has been found in at least 596 of the 1,699 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is aluminum?

Aluminum is the most abundant metal in the earth's crust. It is always found combined with other elements such as oxygen, silicon, and fluorine. Aluminum as the metal is obtained from aluminum-containing minerals. Small amounts of aluminum can be found dissolved in water.

Aluminum metal is light in weight and silvery-white in appearance. Aluminum is used for beverage cans, pots and pans, airplanes, siding and roofing, and foil. Aluminum is often mixed with small amounts of other metals to form aluminum alloys, which are stronger and harder.

Aluminum compounds have many different uses, for example, as alums in water-treatment and alumina in abrasives and furnace linings. They are also found in consumer products such as antacids, astringents, buffered aspirin, food additives, cosmetics, and antiperspirants.

What happens to aluminum when it enters the environment?

- Aluminum cannot be destroyed in the environment, it can only change its form.
- In the air, aluminum binds to small particles, which can stay suspended for many days.
- Under most conditions, a small amount of aluminum will dissolve in lakes, streams, and rivers.
- It can be taken up by some plants from soil.
- Aluminum is not accumulated to a significant extent in most plants or animals.

How might I be exposed to aluminum?

- Virtually all food, water, air, and soil contain some aluminum.
- The average adult in the U.S. eats about 7–9 milligrams (mg) aluminum per day in their food.
- Breathing higher levels of aluminum dust in workplace air.
- Living in areas where the air is dusty, where aluminum is mined or processed into aluminum metal, near certain hazardous waste sites, or where aluminum is naturally high.
- Eating substances containing high levels of aluminum (such as antacids) especially when eating or drinking citrus products at the same time.
- Children and adults may be exposed to small amounts of aluminum from vaccinations.
- Very little enters your body from aluminum cooking utensils.

How can aluminum affect my health?

Only very small amounts of aluminum that you may inhale, ingest, or have skin contact with will enter the bloodstream.

Exposure to aluminum is usually not harmful, but exposure to high levels can affect your health. Workers who breathe large amounts of aluminum dusts can have lung problems, such as coughing or abnormal chest X-rays. Some workers who breathe aluminum dusts or aluminum fumes have decreased performance in some tests that measure functions of the nervous system.

Some people with kidney disease store a lot of aluminum in their bodies and sometimes develop bone or brain diseases which may be caused by the excess aluminum. Some studies

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Aluminum

CAS # 7429-90-5

show that people exposed to high levels of aluminum may develop Alzheimer's disease, but other studies have not found this to be true. We do not know for certain whether aluminum causes Alzheimer's disease.

Studies in animals show that the nervous system is a sensitive target of aluminum toxicity. Obvious signs of damage were not seen in animals after high oral doses of aluminum. However, the animals did not perform as well in tests that measured the strength of their grip or how much they moved around.

We do not know if aluminum will affect reproduction in people. Aluminum does not appear to affect fertility in animals.

How likely is aluminum to cause cancer?

The Department of Health and Human Services (DHHS) and the EPA have not evaluated the carcinogenic potential of aluminum in humans. Aluminum has not been shown to cause cancer in animals.

How can aluminum affect children?

Children with kidney problems who were given aluminum in their medical treatments developed bone diseases. It does not appear that children are more sensitive to aluminum than adults.

We do not know if aluminum will cause birth defects in people. Birth defects have not been seen in animals. Aluminum in large amounts has been shown to be harmful to unborn and developing animals because it can cause delays in skeletal and neurological development.

Aluminum is found in breast milk, but only a small amount of this aluminum will enter the infant's body through breastfeeding.

How can families reduce the risks of exposure to aluminum?

- Since aluminum is so common and widespread in the environment, families cannot avoid exposure to aluminum.

- Avoid taking large quantities of aluminum-containing antacids and buffered aspirin and take these medications as directed.
- Make sure all medications have child-proof caps so children will not accidentally eat them.

Is there a medical test to determine whether I have been exposed to aluminum?

All people have small amounts of aluminum in their bodies. Aluminum can be measured in blood, bones, feces, or urine. Urine and blood aluminum measurements can tell you whether you have been exposed to larger-than-normal amounts of aluminum. Measuring bone aluminum can also indicate exposure to high levels, but this requires a bone biopsy.

Has the federal government made recommendations to protect human health?

The EPA has recommended a Secondary Maximum Contaminant Level (SMCL) of 0.05–0.2 milligrams per liter (mg/L) for aluminum in drinking water. The SMCL is not based on levels that will affect humans or animals. It is based on taste, smell, or color.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to aluminum in dusts to 15 milligrams per cubic meter (mg/m³) (total dust) and 5 mg/m³ (respirable fraction) of air for an 8-hour workday, 40-hour workweek.

The Food and Drug Administration (FDA) has determined that aluminum used as food additives and medicinals such as antacids are generally safe.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2008. Toxicological Profile for Aluminum. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30329-4027.

Phone: 1-800-232-4636

ToxFAQs™ Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaqs/index.asp>

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

To: Rogow, Michelle[Rogow.Michelle@epa.gov]; Payne, Tony[Tony.Payne@fire.lacounty.gov]; Jones, Bill[Bill.Jones@fire.lacounty.gov]
From: Charlene Contreras
Sent: Tue 8/30/2016 4:58:21 PM
Subject: FW: Example attachments for residential packets - Fruitland
MAIL_RECEIVED: Tue 8/30/2016 4:59:00 PM
[3559 draft packet 072816.pdf](#)
[3563 draft packet 072816.pdf](#)
[AI - ToxFAQs ESP.pdf](#)
[AI - ToxFAQs.pdf](#)

Hi Michelle,

Our vendor will charge [REDACTED] per word to translate the 40 page summary documents and take about a month to finish. I suggest we go with the ToxFAQs because the documents are

1. already translated
2. from a credible source (ASTDR)
3. and visually appealing

The package will be much larger but the residents will receive the packets sooner. They have been asking our staff for the status of these documents. Let me know your thoughts...

Best regards,

Charlene

From: Rogow, Michelle [mailto:Rogow.Michelle@epa.gov]
Sent: Wednesday, August 10, 2016 4:55 PM
To: Charlene Contreras <chcontreras@ph.lacounty.gov>; 'tony.payne@fire.lacounty.com' <tony.payne@fire.lacounty.com>
Subject: Example attachments for residential packets - Fruitland

Charlene and Tony,

Here are two examples of the attachments for the residential packets for review – one indoor+outdoor cleanup property (██████) and one outdoor-only (██████).

We do not have copies of the ServPro indoor cleaning reports yet, right now there is a placeholder for Attachment 6 included at the end of the ██████ packet. We are working with ServePro to finalize a demo of what that would look like.

Please review attachment 2 – it is a summary of the metals toxicological information, which would need to be translated, if we sent out. The alternative is to provide the full document (ToxFAQ). I have included one ToxFAQ (for Aluminum) in this email, along with its Spanish translation. While it would be easier just to include the ToxFAQ, it would make the packages much larger, since it would be for 18 metals – 4 pages each (vs 2 pages). Let me know which we should go with, the summary or the ToxFAQ.

Also, please send me any other comments you have so we can finalize these attachments.

Thanks,

Michelle

To: Ashu Palta[APalta@ceooem.lacounty.gov]; angela.m.villier@uscg.mil[angela.m.villier@uscg.mil];
Wise, Robert[Wise.Robert@epa.gov]
From: Tresieras, Mario
Sent: Fri 6/24/2016 5:25:27 PM
Subject: Damage Inspection Report (DINS)
MAIL RECEIVED: Fri 6/24/2016 5:27:48 PM
[Fruitland Magnesium Fire Property Damage Inspection Reports V8 Final.pdf](#)

Per your request. See attachment.

I can also be reached at 213-215-2196 c.

Mario Tresieras, SHMS

Los Angeles County **Fire** Department

Health Hazardous Materials Division

Emergency Operations

323-890-4086 ofc



FRUITLAND MAGNESIUM FIRE INCIDENT

INCIDENT # CA-LAC-170501



FIRE IMPACT INSPECTION REPORT JUNE 23, 2016

**Prepared by LACoFD
Health Hazardous Materials Division
Damage Inspection Team**

FRUITLAND MAGNESIUM FIRE INCIDENT

INCIDENT # CA-LAC-170501

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- 3) FIRE IMPACT INSPECTION REPORTS AND PHOTOS**
- 4) FRUITLAND MAGNESIUM FIRE MAP**

FRUITLAND MAGNESIUM FIRE INCIDENT

INCIDENT # CA-LAC-170501

FIRE IMPACT INSPECTION NARRATIVE

The Fruitland Magnesium Fire Incident started on June 14, 2016 at 0231 hours. Vernon Fire and the County of Los Angeles Fire Department responded to the single story commercial structure fire. The fire originated at 3570 Fruitland Avenue in the City of Maywood in the County of Los Angeles, California. The building was occupied by a processor and broker of recyclable metals with a portion subleased to a metal extracting reclamation business. The origin and cause of the fire is under investigation by the County of Los Angeles Sheriff's Department.

Approximately 300 individuals were evacuated from nearby homes and businesses due to dangerous conditions created by the intense fire and air quality issues. Areas evacuated included residences immediately south of the facility (mandated) and a voluntary evacuation [REDACTED] [REDACTED] [REDACTED] along with restricted access to the businesses near the facility on Fruitland Avenue. Additionally, businesses north of Fruitland Avenue in the City of Vernon were also notified to remain out of their business locations. Businesses impacted on Fruitland Avenue in the City of Maywood included:

- Keeney Truck Lines at 3500 Fruitland Avenue
- Pacific Machinery Moving 3544 Fruitland Avenue
- Gemini Plastic 3574 Fruitland Avenue

Street closures occurred at [REDACTED] and [REDACTED] from [REDACTED].

The fire was extinguished on June 16, 2016. The incident was relinquished to the Unified Command consisting of the County of Los Angeles (LACo) Fire Department Health Hazardous Materials Division, LACo Public Health, and the United States Environmental Protection Agency (US EPA). Other cooperating and assisting agencies included, the Department of Toxic Substances Control, the LACo Sheriff's Department, South Coast Air Quality Management District, California Department of Fish and Wildlife, the LACo Building and Safety, the LACo Department of Public Works, the LACo Department of Social Services, the LACo Internal Services Department, Vernon Fire Department, Vernon Health Department, the City of Maywood, the California Office of Emergency Management, United States Coast Guard, and the American Red Cross.

Under the Unified Command, US EPA contractors are conducting sampling activities of homes on the [REDACTED] [REDACTED] [REDACTED] to evaluate contaminants from the fire. On an order from the LACo Health Officer, evacuations remained in effect for houses on the [REDACTED] [REDACTED] [REDACTED]. This report is a listing of the residential properties impacted by the fire and also includes the business where the fire originated.

FIRE IMPACT INSPECTION PROPERTY LIST FRUITLAND MAGNESIUM FIRE CA-LAC-170501										
R#	ADDRESS	STREET	CITY	TYPE OF	STRUCTURE		ASH OBSERVED		VEHICLES	APN
				STRUCTURE	DESTROYED	DAMAGED	YES*	NO	DAMAGED	
1	3570	Fruitland Ave.	Maywood	Commercial	2		X			6311-017-042
2			Maywood	MFD			X			6311-017-038
3			Maywood	SFD				X		6311-017-037
4			Maywood	MFD			X			6311-017-036
5			Maywood	MFD		1	X			6311-017-035
6			Maywood	MFD		1	X			6311-017-034
7			Maywood	SFD		1	X		1	6311-017-033
8			Maywood	SFD			X			6311-017-032
9			Maywood	SFD		1	X			6311-017-031
10			Maywood	SFD			X			6311-017-031
11			Maywood	SFD			X			6311-017-030
12			Maywood	SFD		1	X		1	6311-017-029
13			Maywood	SFD		1	X			6311-017-028
14			Maywood	SFD		1	X			6311-017-027
15			Maywood	SFD			X			6311-017-026
16			Maywood	SFD			X			6311-017-025
17			Maywood	SFD			X			6311-017-024
18			Maywood	SFD			X			6311-017-023
19			Maywood	SFD			X			6311-017-022
				TOTAL	2	7	18	1	2	

* Note: Photographs taken only at properties with sufficient background contrast to illustrate the presence of ash.

FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 1

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: 3570 Fruitland Avenue

APN Number: 6311-017-042

Type of Structure: ☐ Single Family ☐ Outbuilding/Other ☐ Detached Garage
☐ Multi Family ☐ Mobile Home ☒ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☒ Destroyed

Exterior Construction Material: ☐ Stucco ☐ Masonry ☒ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☐ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☒ Unknown

Window Type: ☐ Single Pane ☐ Double Pane ☒ Unknown

Eaves: ☐ Exposed ☐ Enclosed ☒ Unknown

Vents: ☐ Screened ☐ Unscreened ☒ Unknown

Deck: ☐ Attached ☐ Detached ☒ Unknown

Comments: Two buildings and a large overhead structure destroyed.

REPORT #1 – 3570 Fruitland Avenue

PHOTO #1 – Front view of 3570 Fruitland Avenue.



PHOTO #2 – Rear view of 3570 Fruitland Avenue.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 2

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-23-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☐ Single Family ☐ Outbuilding/Other ☐ Detached Garage
☒ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: The parcel includes [REDACTED] as well as [REDACTED]

[REDACTED] Ash observed photograph taken 6/17/16.

PHOTO #1 – Side view of property.

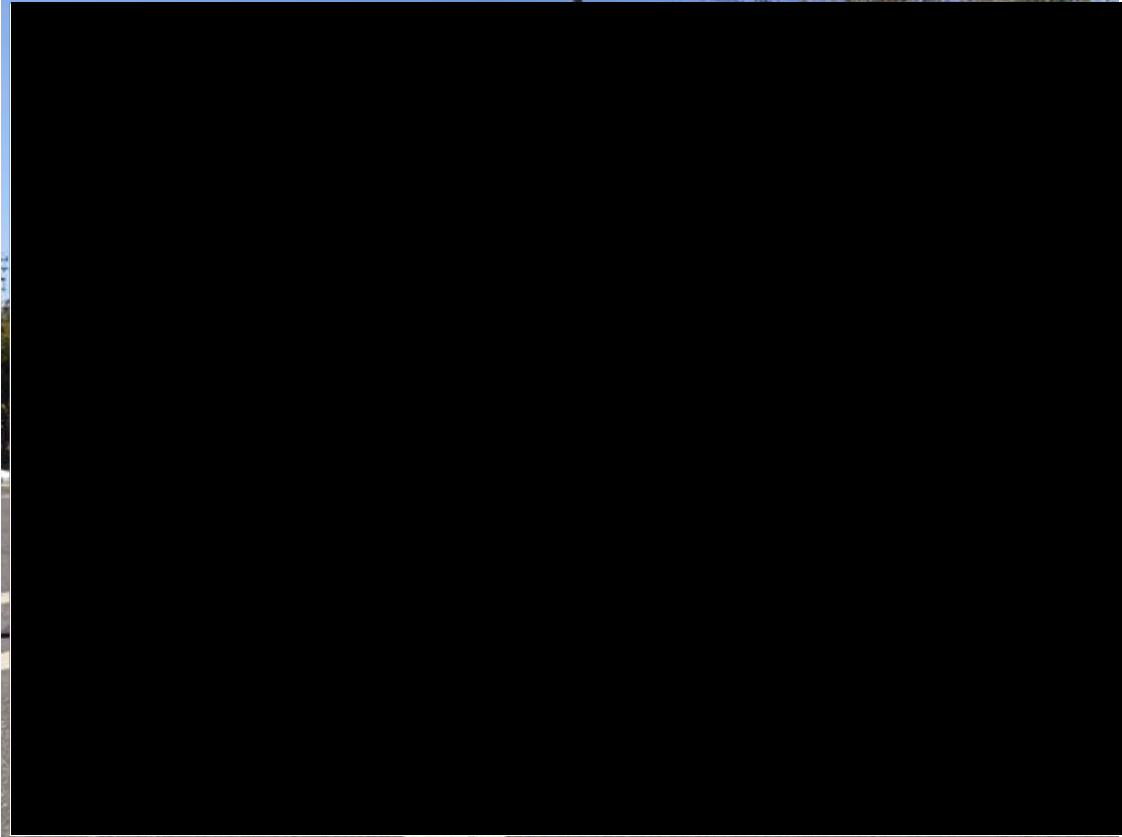


PHOTO #2 – Ash deposit on asphalt in carport area.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 3

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-23-16 Incident Type: Chemical Fire

Property Address: ██████

APN Number: ██████████

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☐ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☒ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☐ Single Pane ☒ Double Pane ☐ Unknown

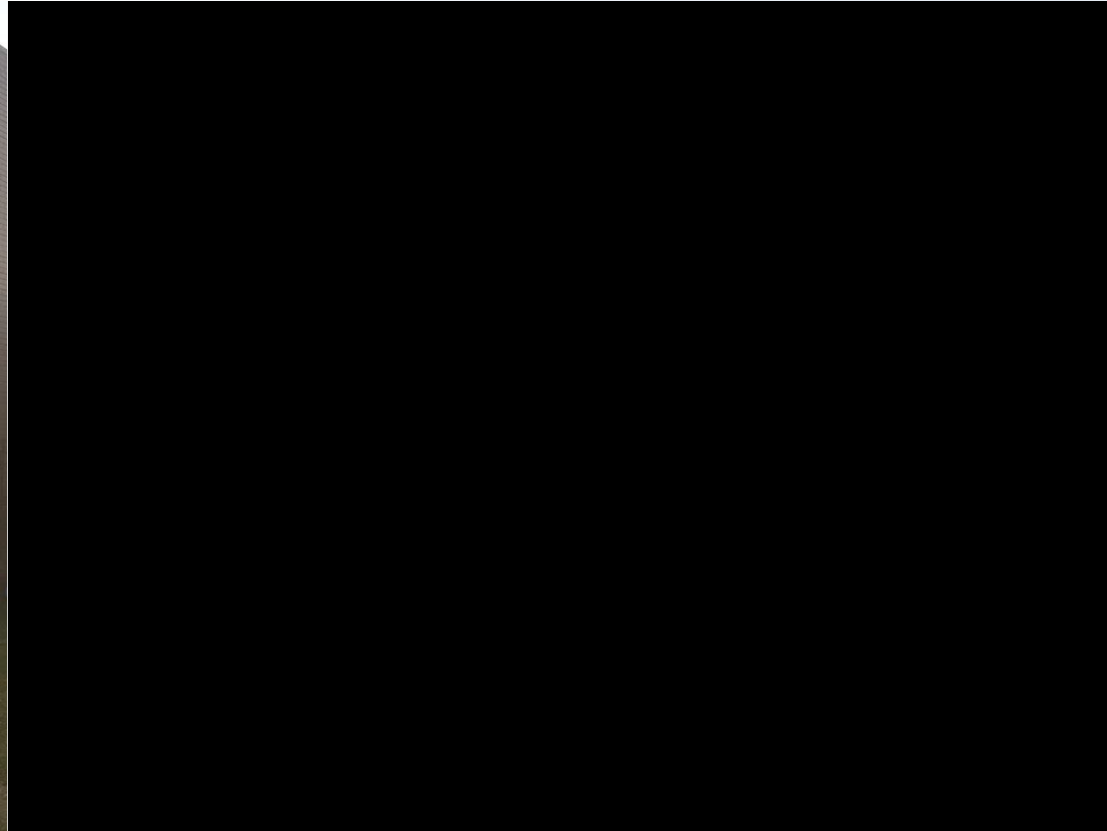
Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: No damage observed. No ash observed

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 4

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address:

APN Number:

Type of Structure: ☐ Single Family ☐ Outbuilding/Other ☐ Detached Garage
☒ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☐ Stucco ☒ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☒ Double Pane ☐ Unknown

Eaves: ☐ Exposed ☒ Enclosed ☐ Unknown

Vents: ☐ Screened ☐ Unscreened ☐ Unknown NA

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Front units facing the street have double pane windows; the remaining windows are single pane.

Ash deposits observed; No property damage.

PHOTO #1 – Front view of property.

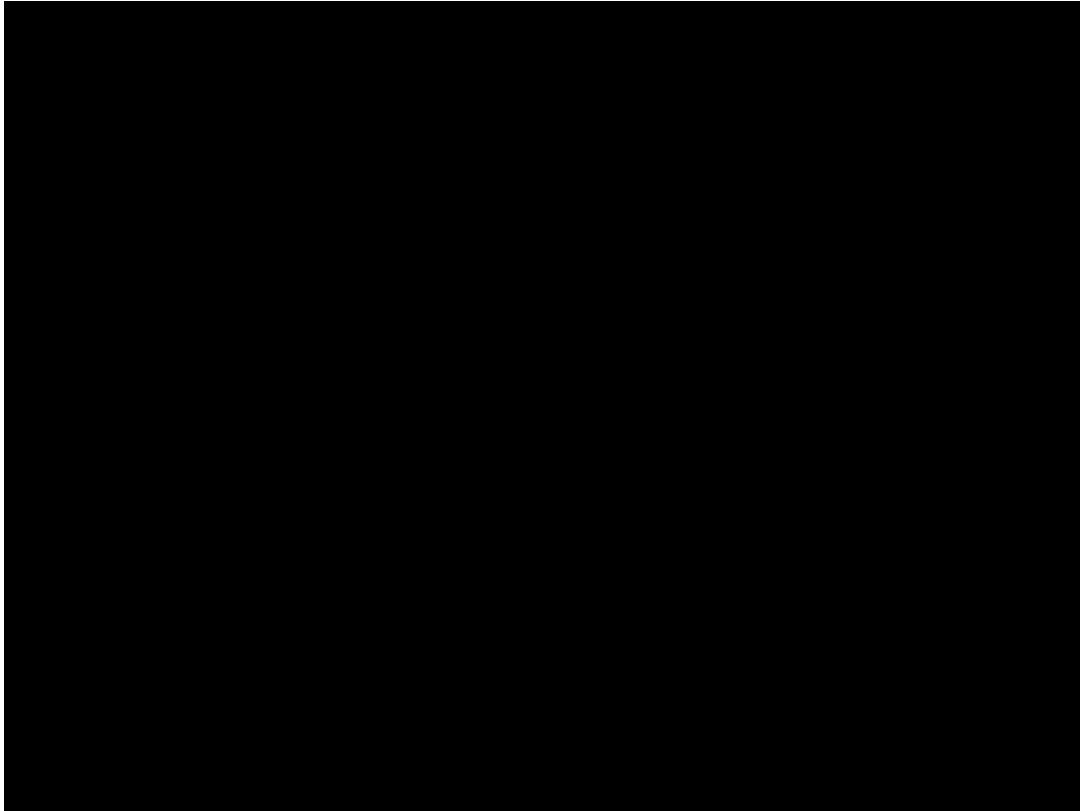
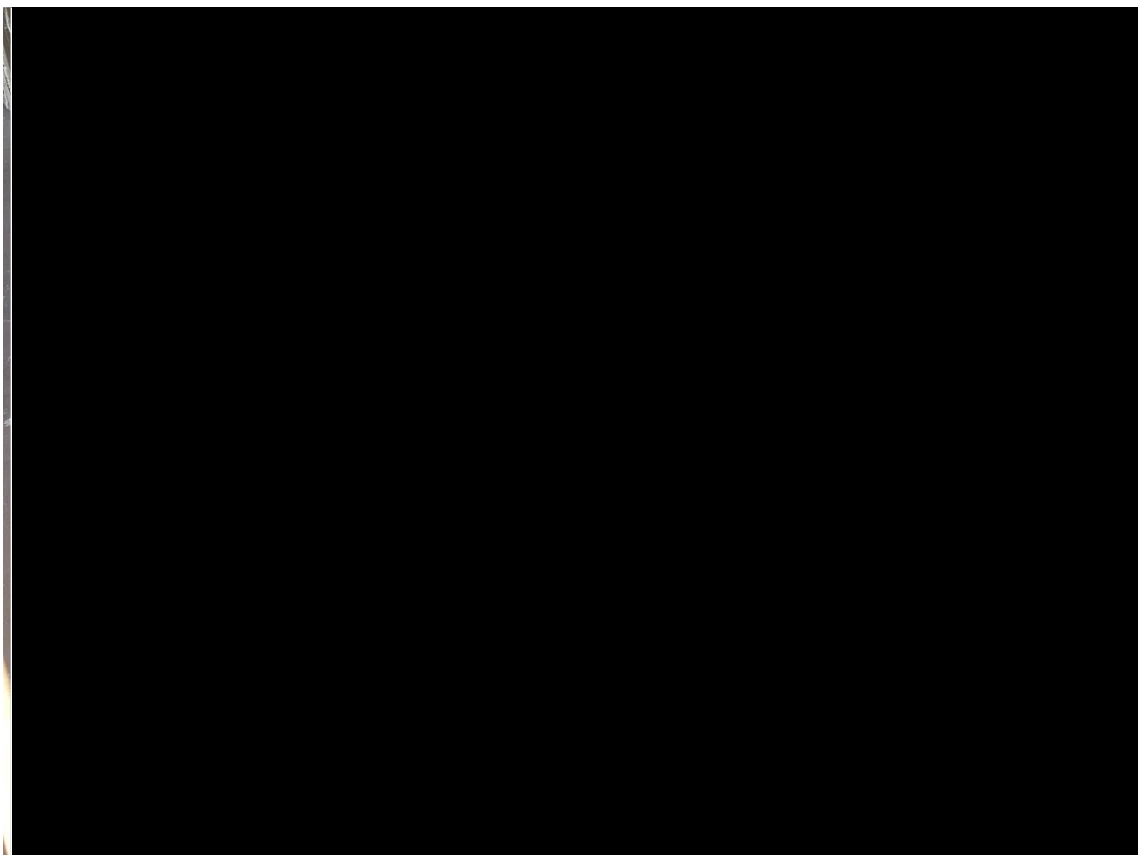


PHOTO #2 – Ash deposit on the walkway.



REPORT #4 – 3587 E. 52nd Street

PHOTO #3 – Ash deposit on the walkway.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 5

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☐ Single Family ☐ Outbuilding/Other ☐ Detached Garage
☒ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☒ Minor ☐ Moderate ☐ Major ☐ Destroyed

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☐ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Two windows damaged and boarded up (3' x 4').

Ash deposit observed.

PHOTO #1 – Front view of property.

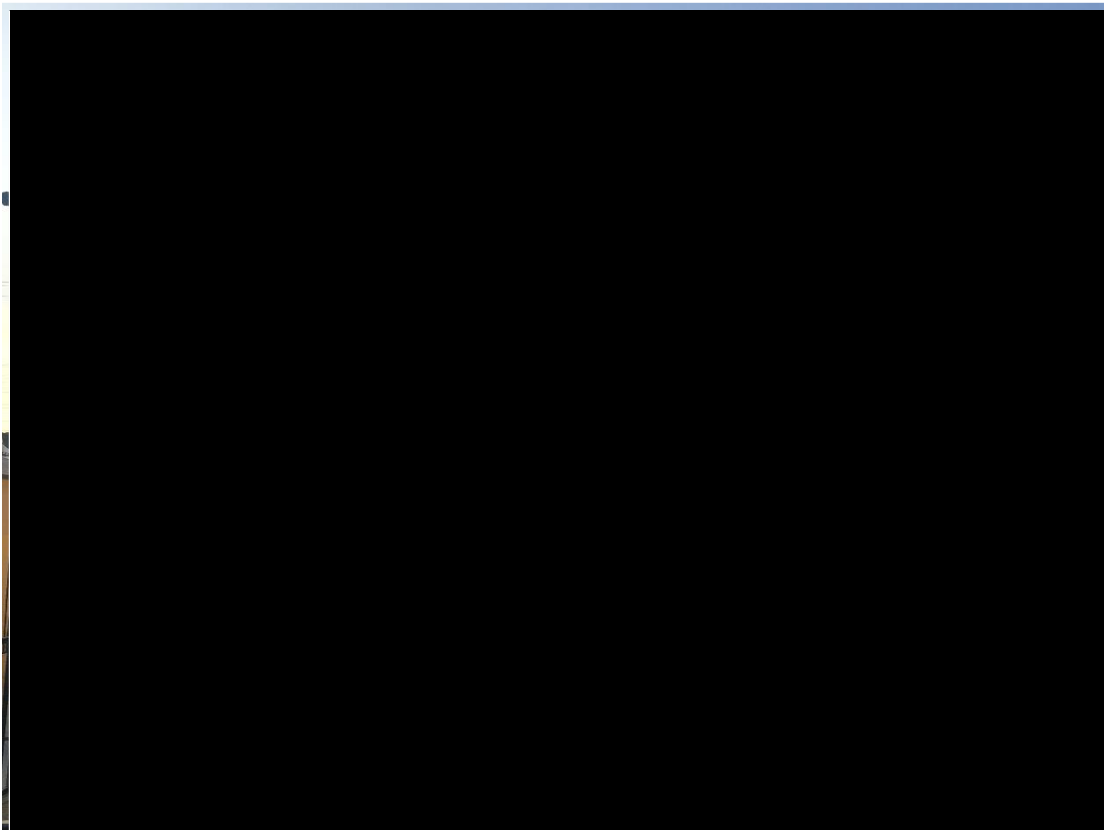


PHOTO #2 – Damaged window on east side of building.



PHOTO #3 – Ash deposits on west side of the building.

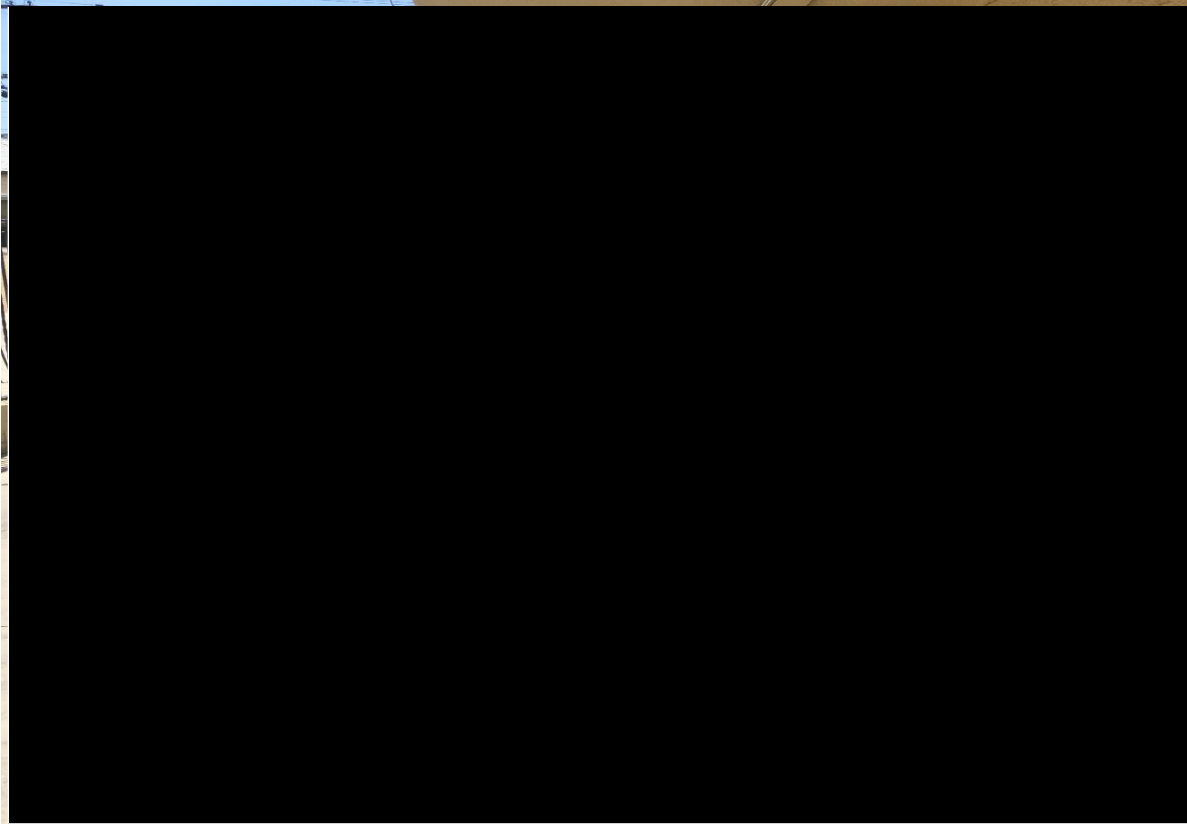
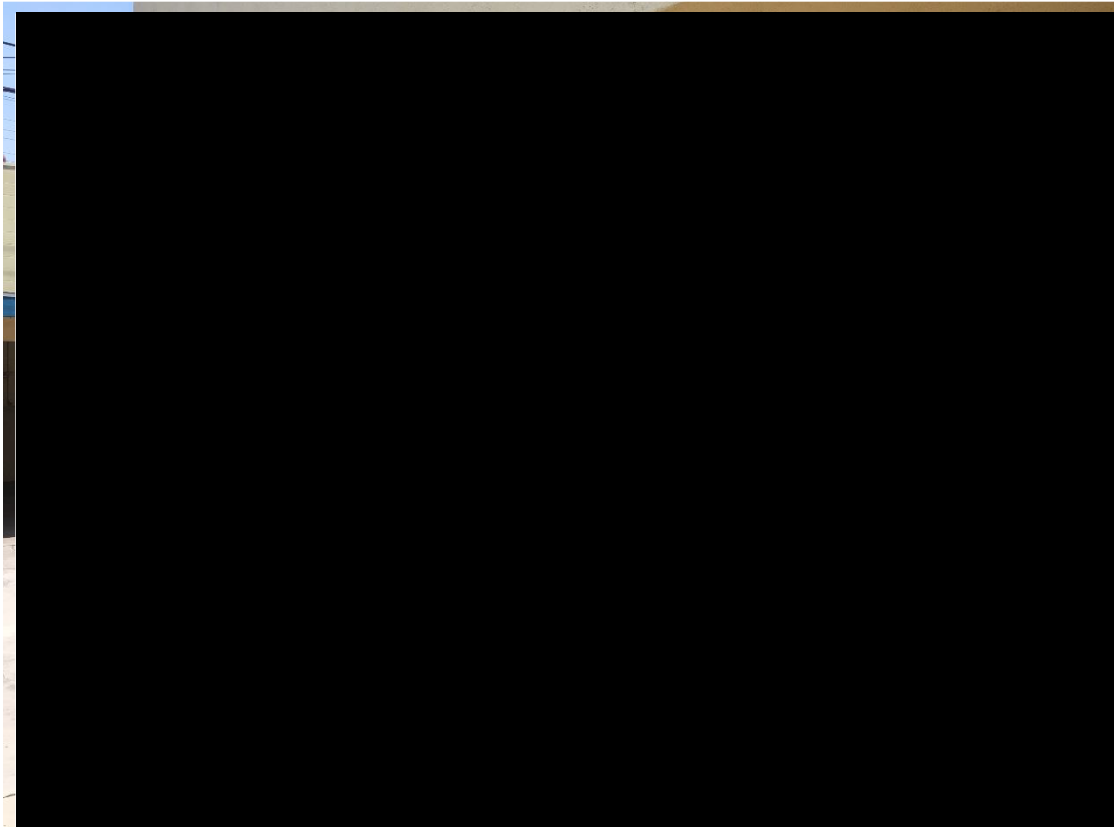


PHOTO #4 – Damaged window on west side of the building.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 6

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☐ Single Family ☐ Outbuilding/Other ☐ Detached Garage
☒ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☒ Minor ☐ Moderate ☐ Major ☐ Destroyed

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☐ Exposed ☒ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Unit D west side window broken; (3'x4'). North side window boarded up (3'x3')

Ash deposit observed.

PHOTO #1 – Front view of property.



PHOTO #2 – Ash deposits on south side of the building.

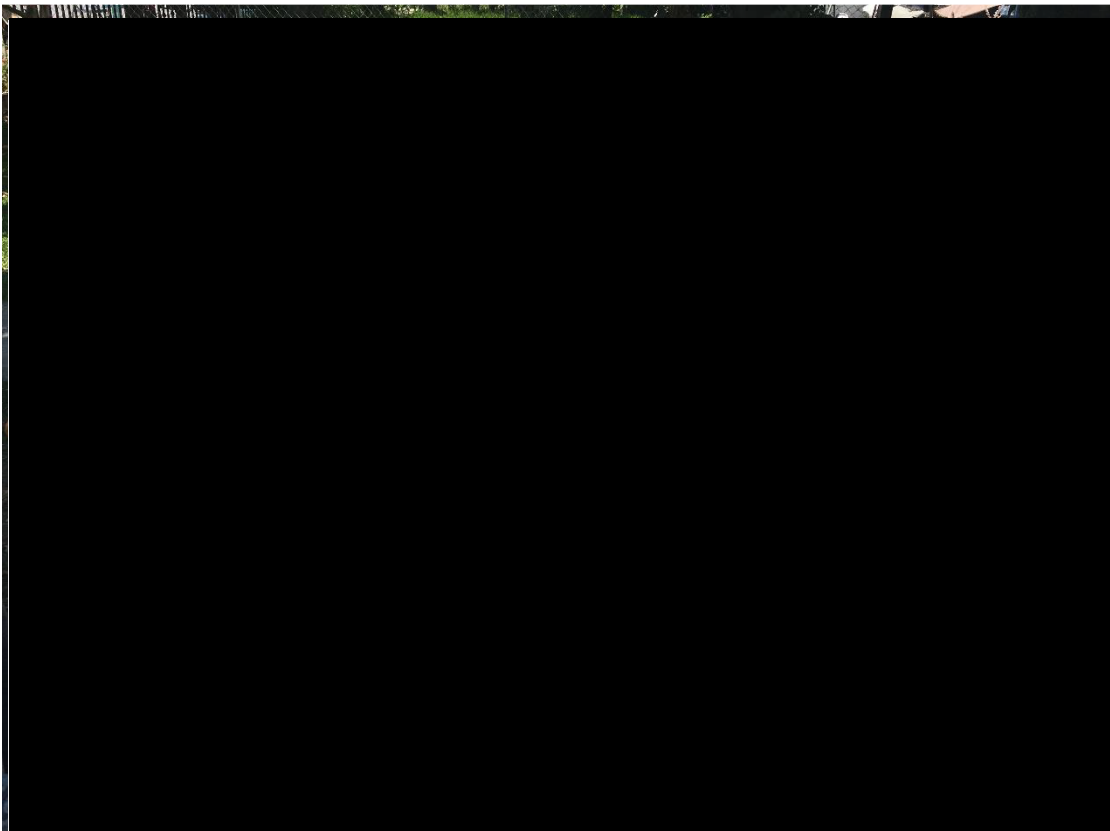


PHOTO #3 – Boarded window on the north side.

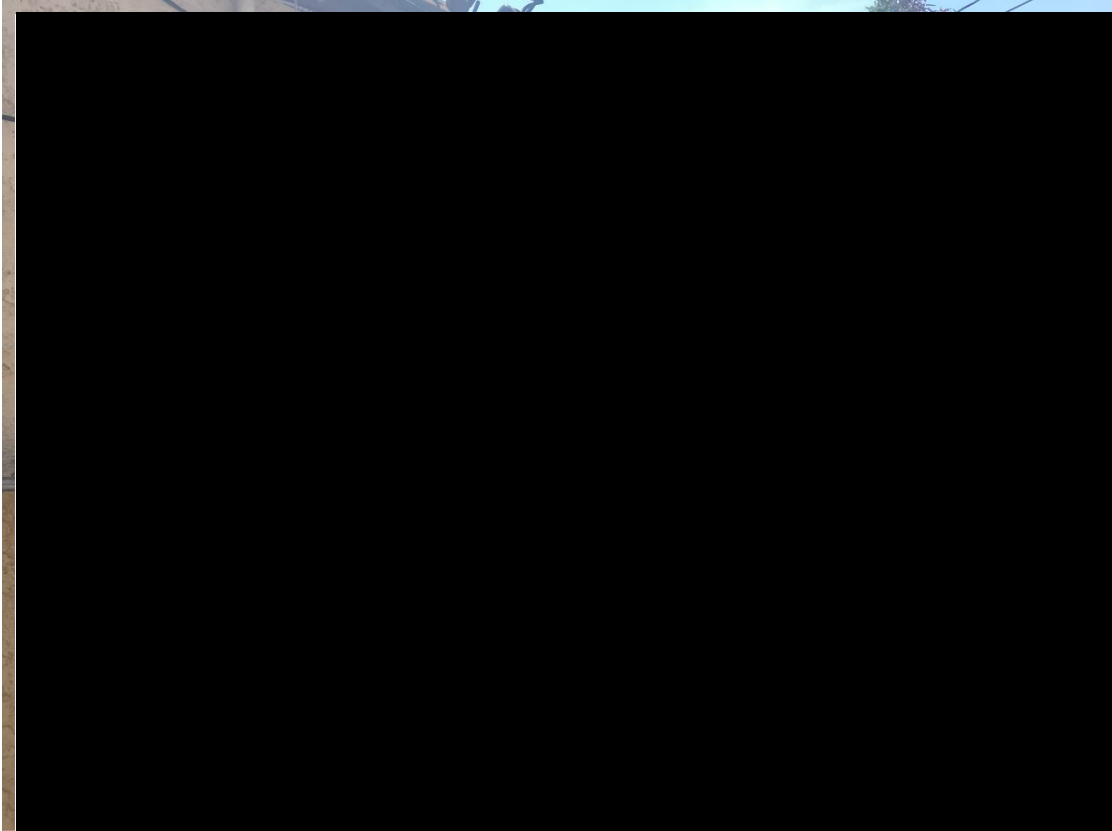


PHOTO #4 – Unit D west side window broken.

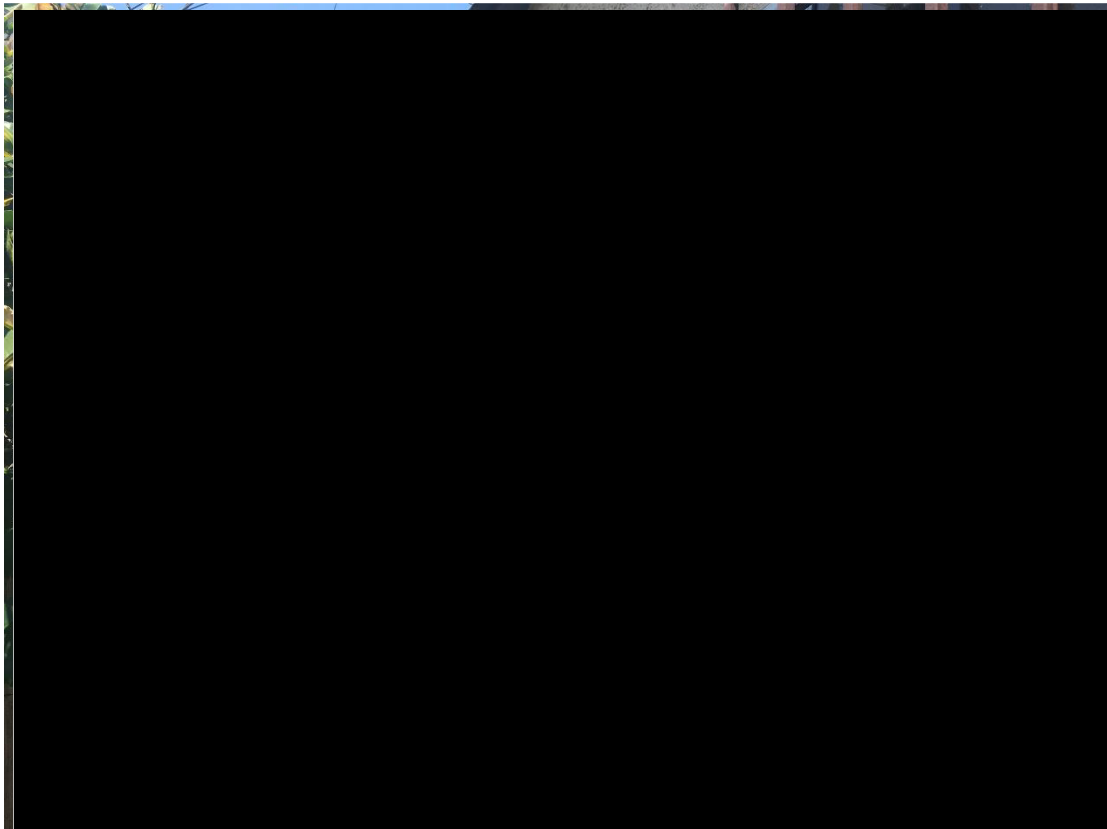
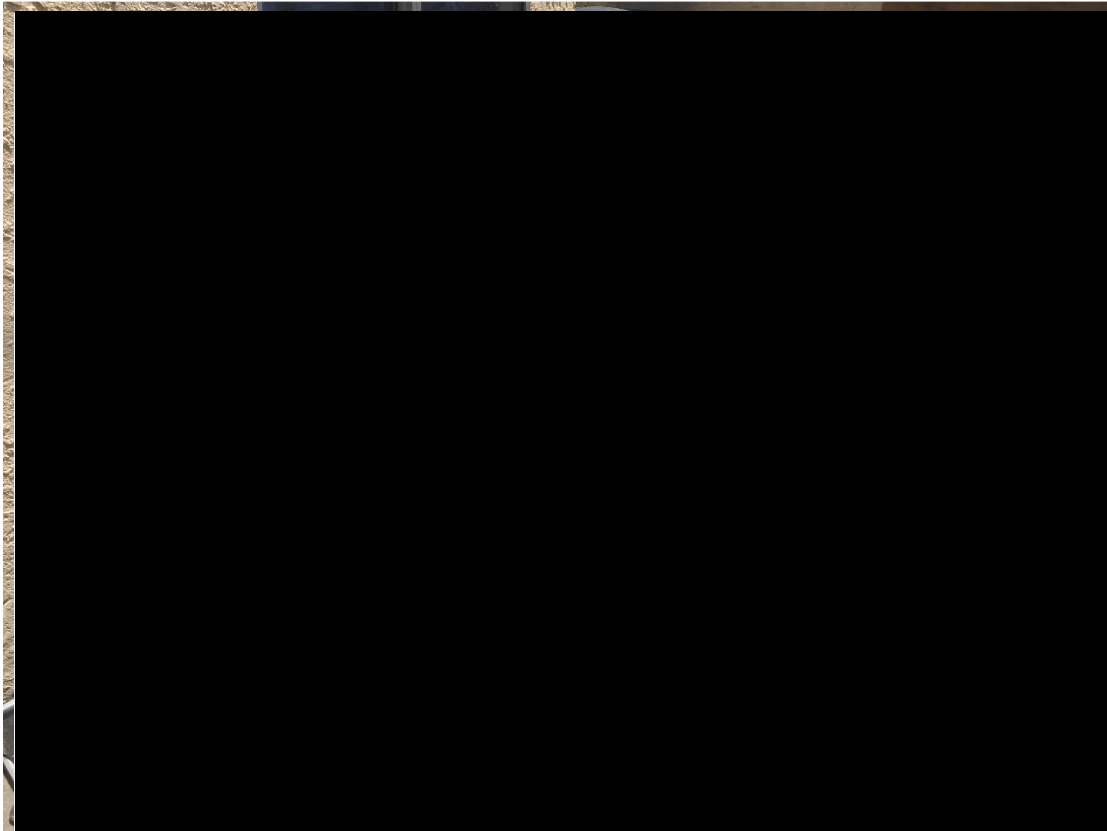


PHOTO #5 – Metal fragment on the concrete.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 7

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address:

APN Number:

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☒ Minor ☐ Moderate ☐ Major ☐ Destroyed

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☐ Exposed ☒ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Damaged windshield, black Honda Accord, plate number . Broken rear window.

Damaged 3'x4' house window. Ash deposit observed.

PHOTO #1 – Front view of property.



PHOTO #2 – Vehicle with rear windshield damage and ash deposits.

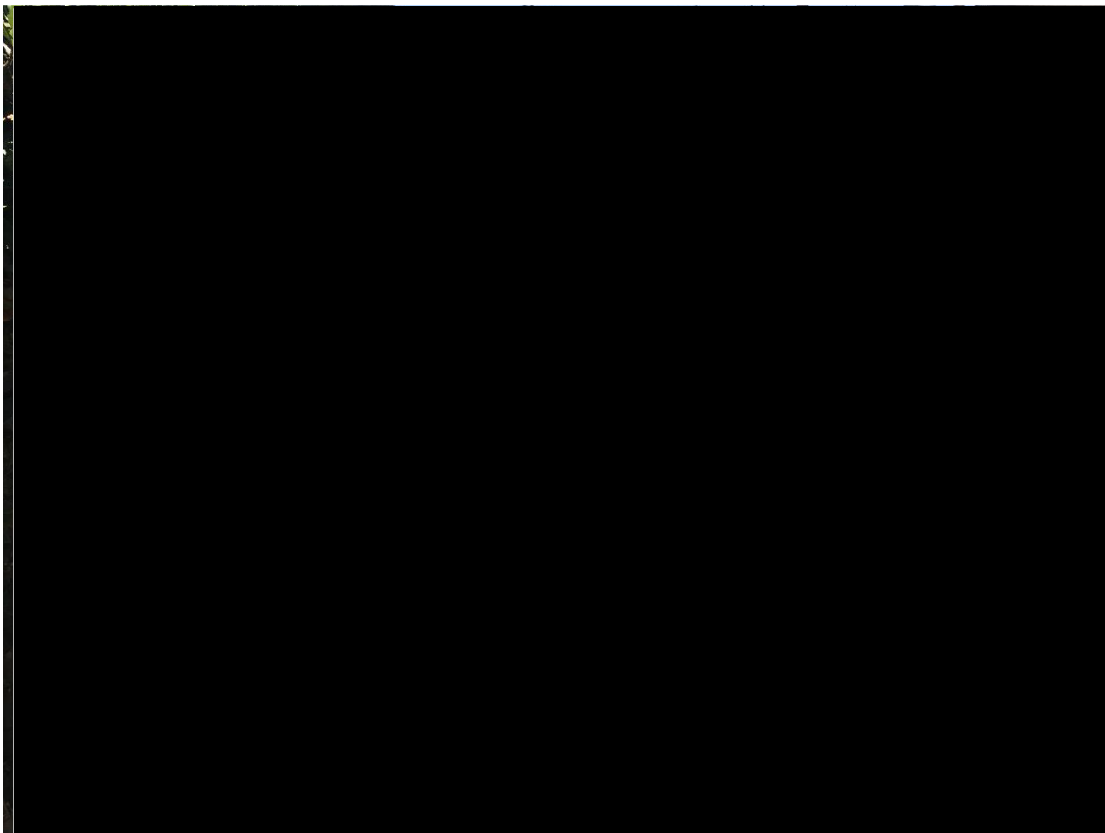


PHOTO #3 – Vehicle with windshield damage and ash deposits.

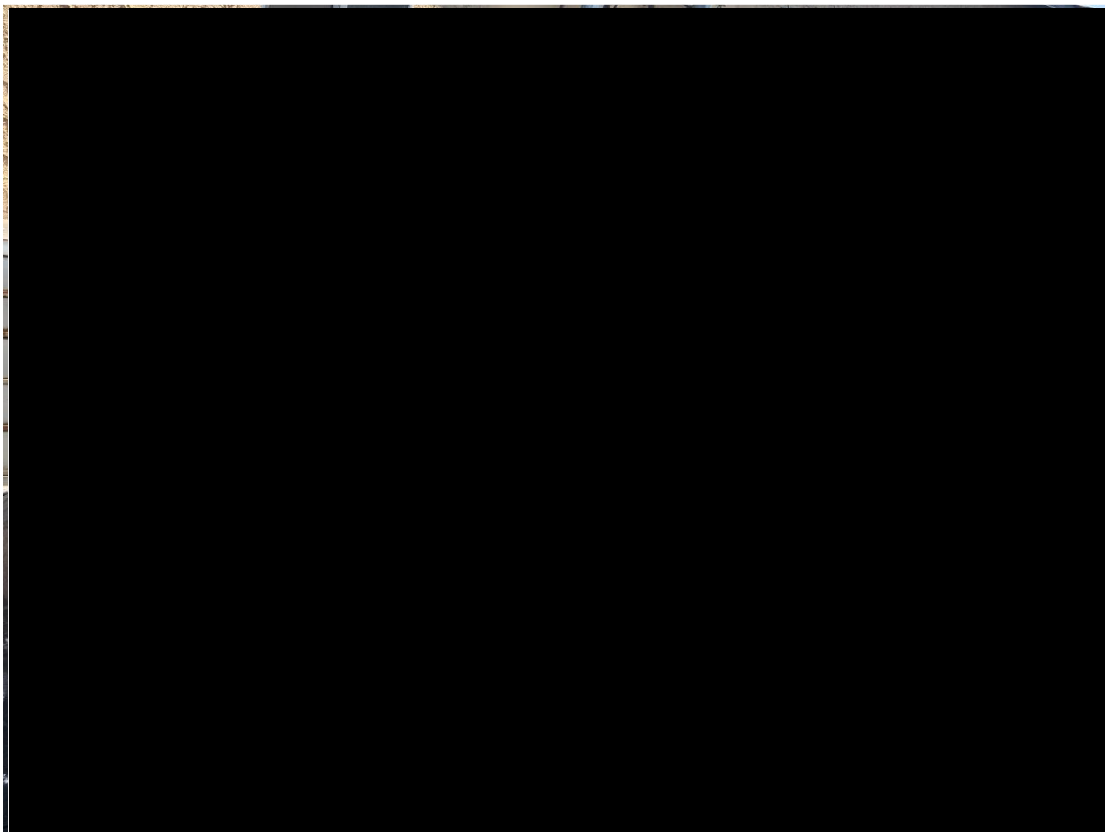
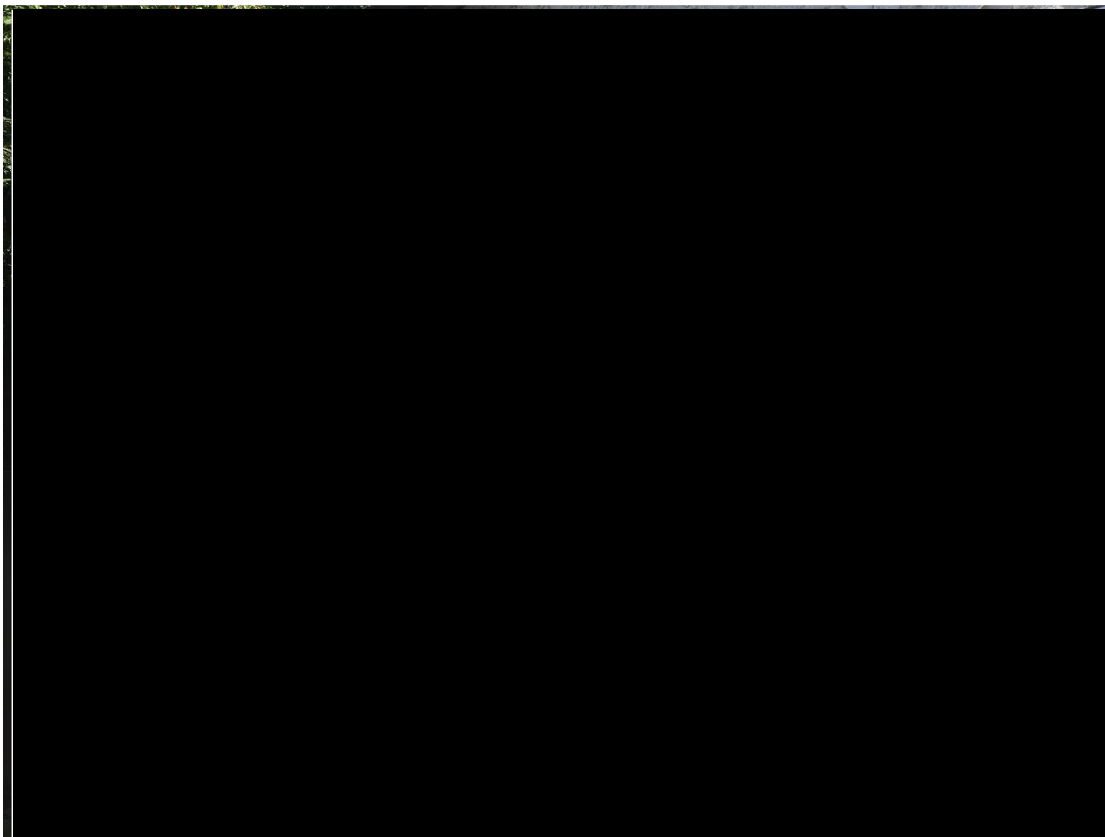


PHOTO #4 – Damaged window.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 8

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☐ Single Pane ☒ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

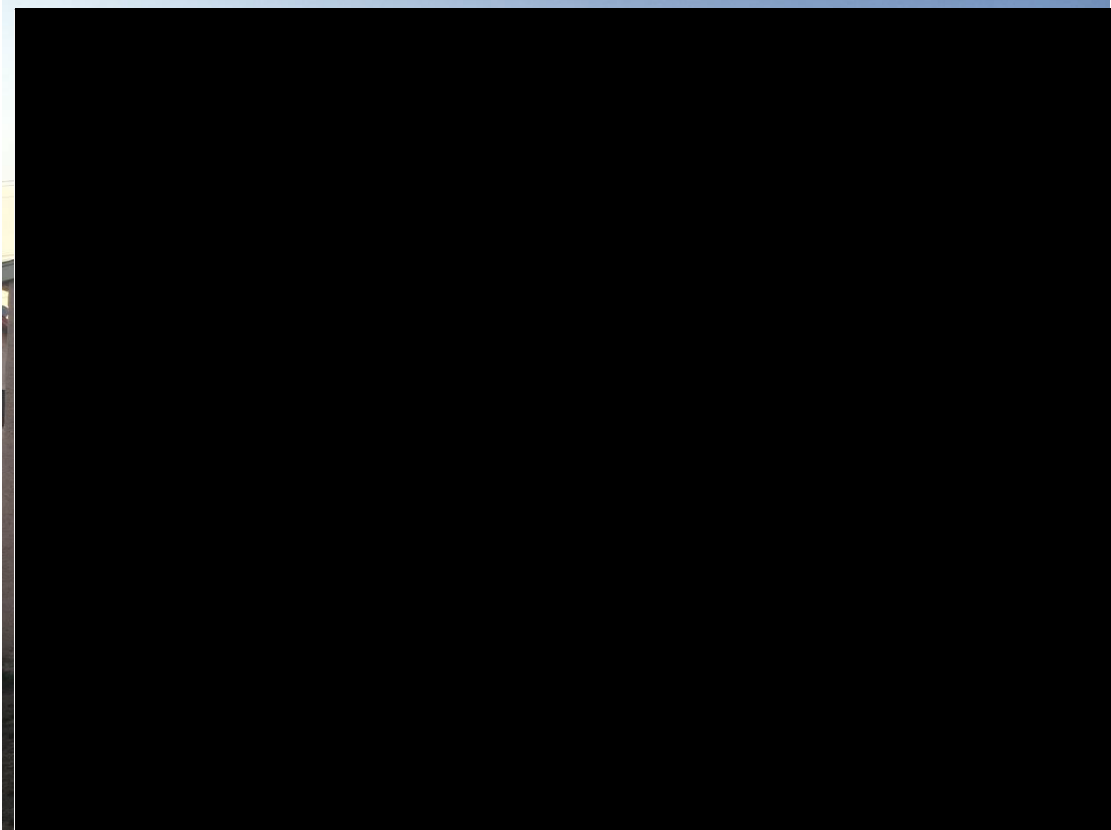
Vents: ☐ Screened ☒ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Ash deposit observed, difficult to photograph.

No damaged observed.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 9

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☒ Minor ☐ Moderate ☐ Major ☐ Destroyed

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☐ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Broken window (6'x3'); Rear block wall damaged.

Ash deposit observed, difficult to photograph.

PHOTO #1 – Front view of property.

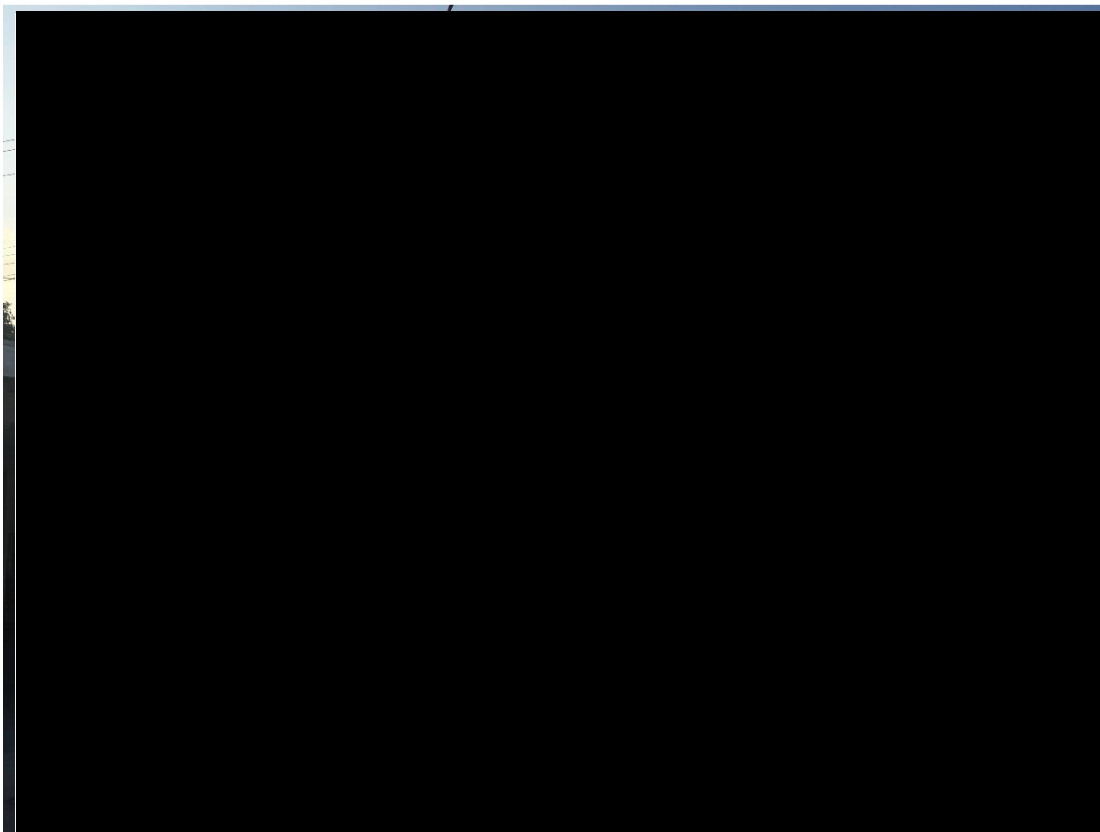


PHOTO #2 – Damaged rear wall.

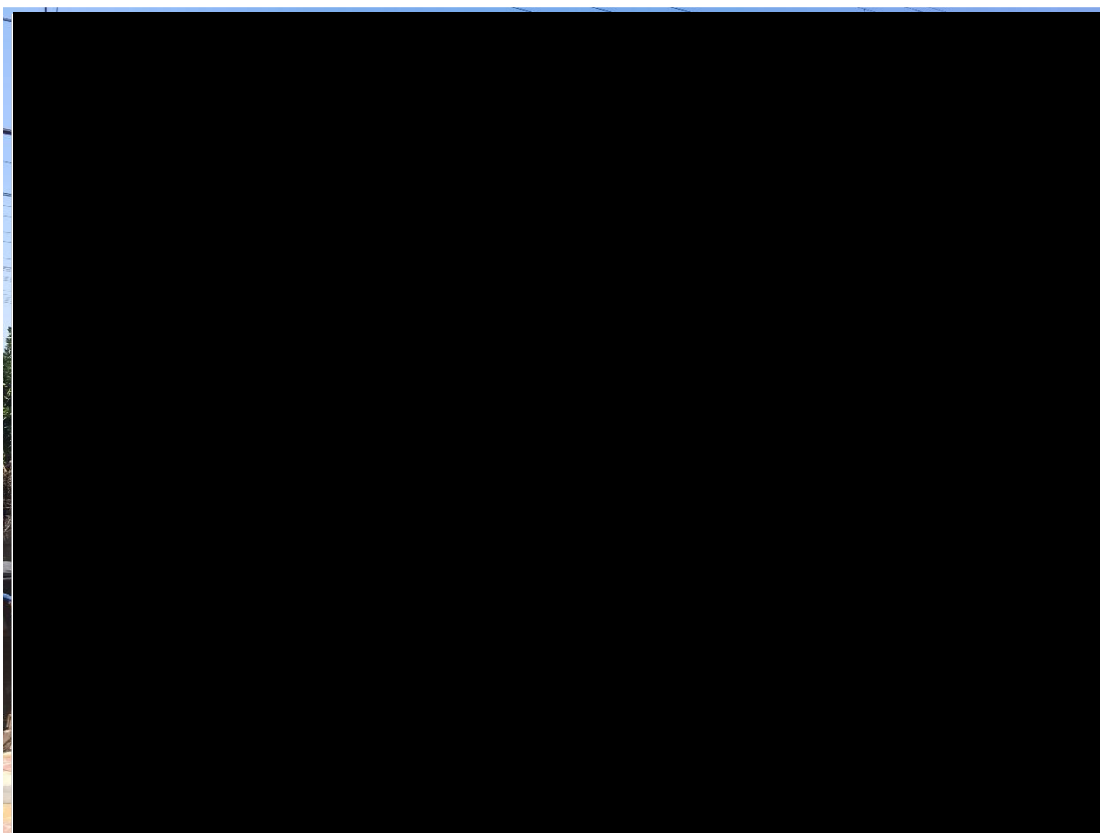
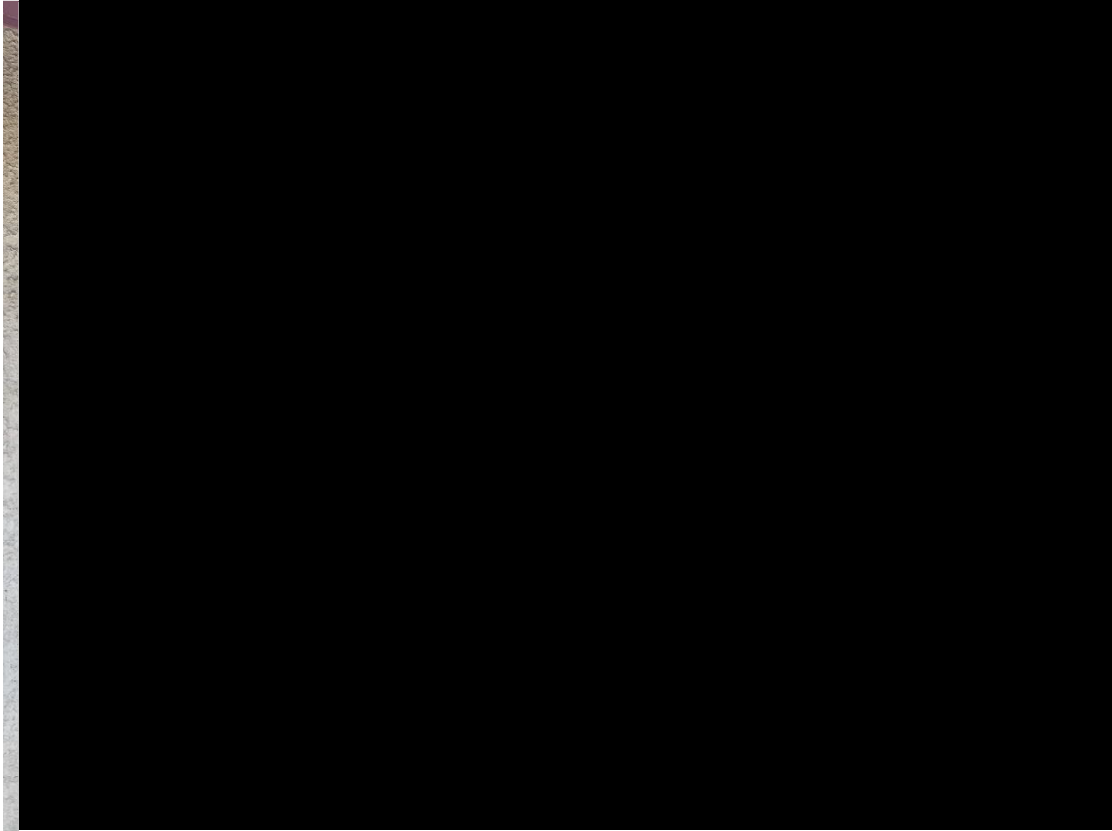


PHOTO #3 – Damaged window.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 10

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

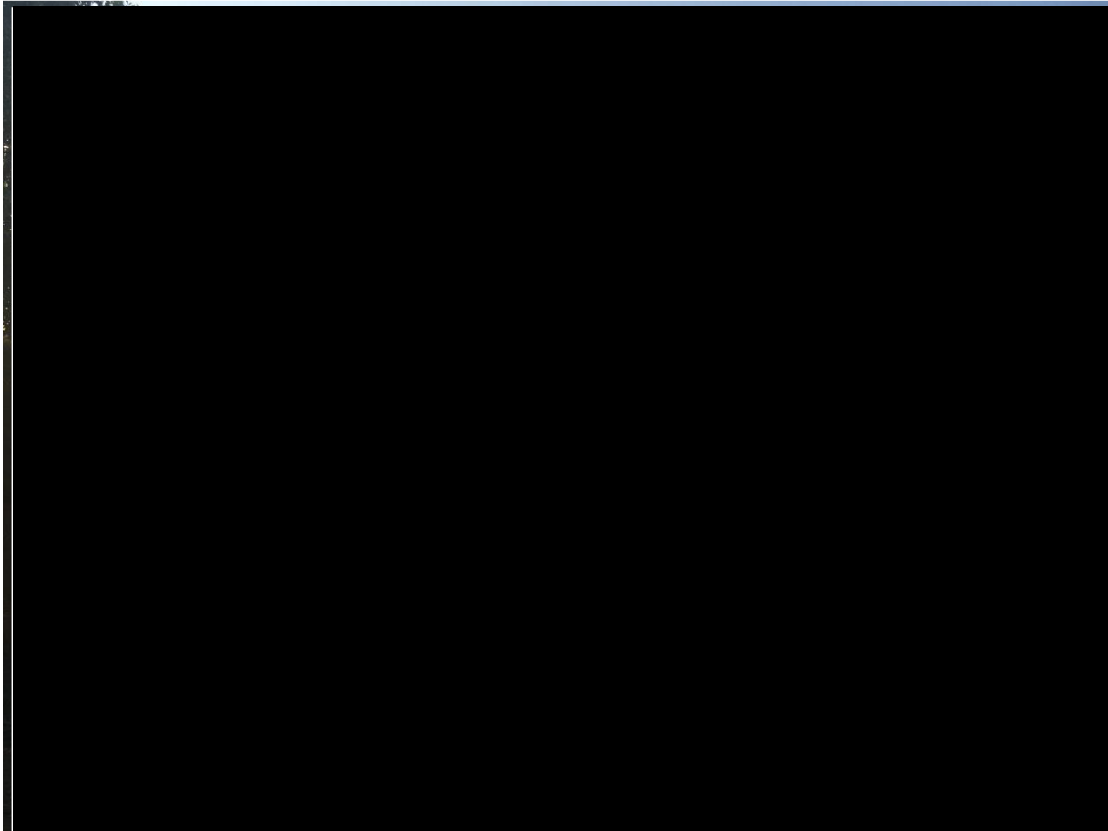
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown

Comments: Ash deposit observed, difficult to photograph.

No damaged observed.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 11

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address:

APN Number:

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

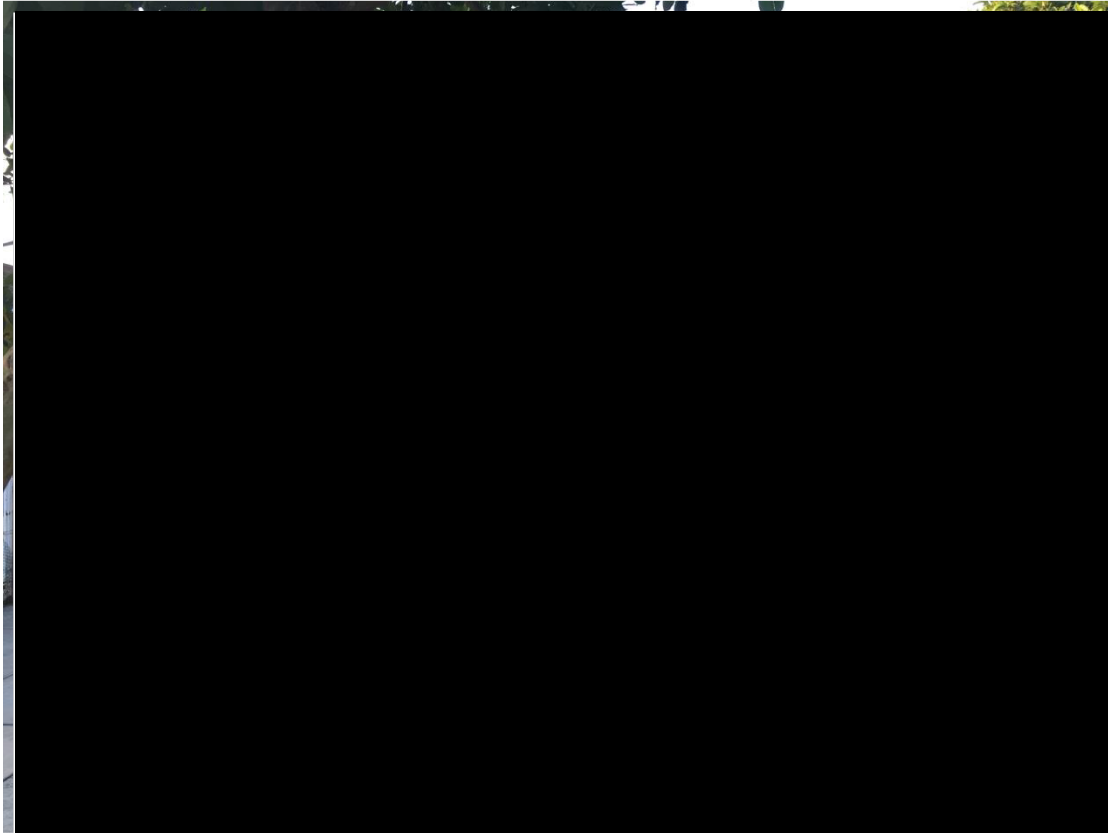
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Ash deposit observed, difficult to photograph.

No damage observed.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 12

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address:

APN Number:

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☒ Moderate ☐ Major ☐ Destroyed

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☐ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Back wall damaged; Black Toyota sedan burned, plate number

Ash observed on car and ground.

PHOTO #1 – Front view of property.

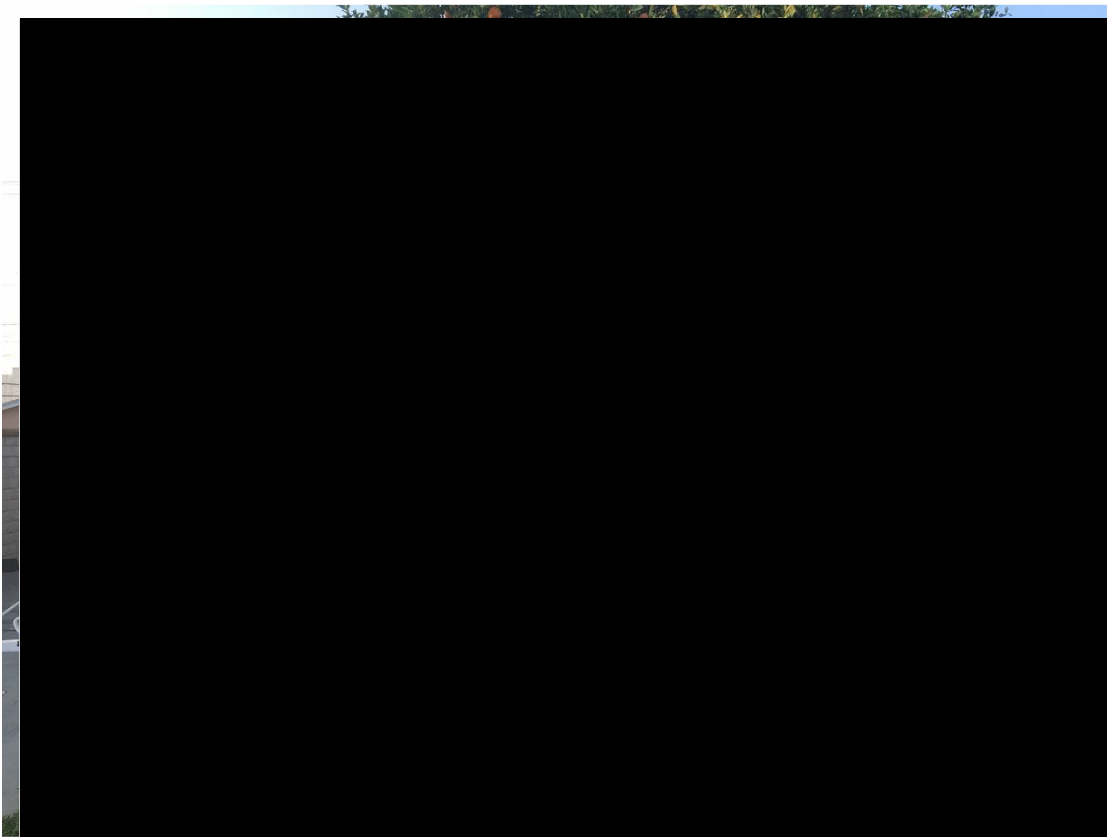


PHOTO #2 – Rear wall damaged.

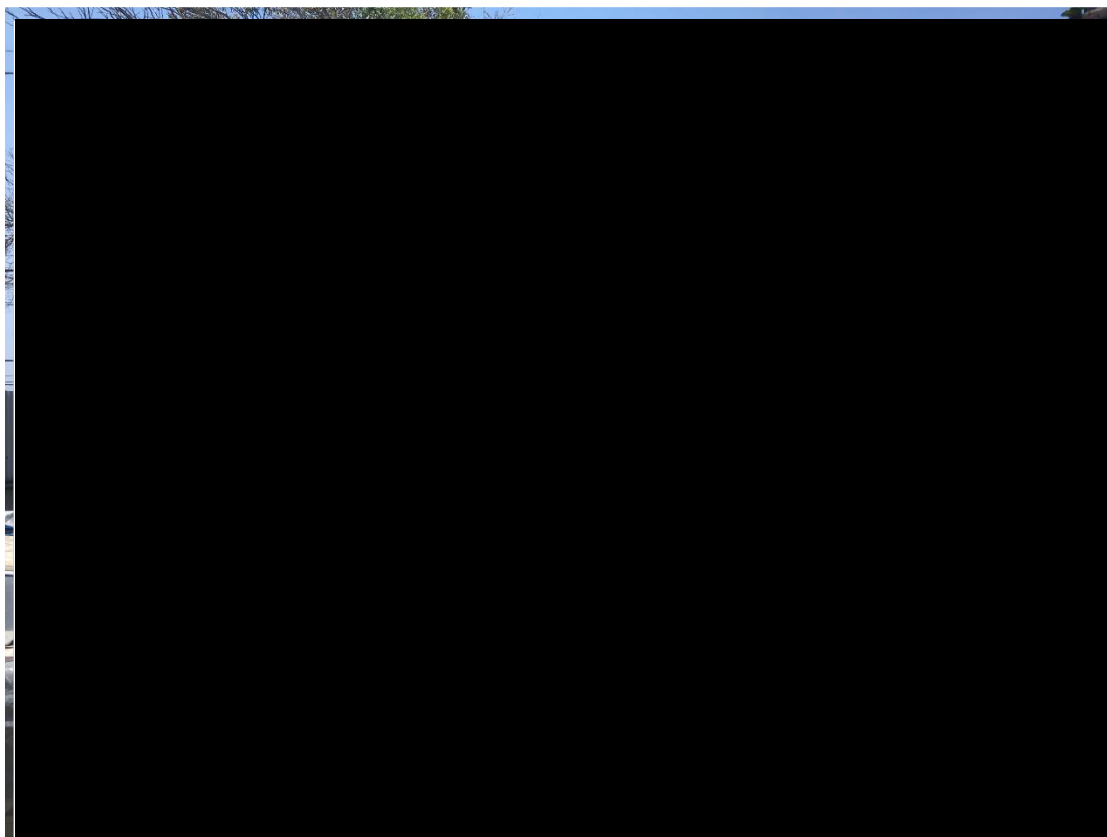
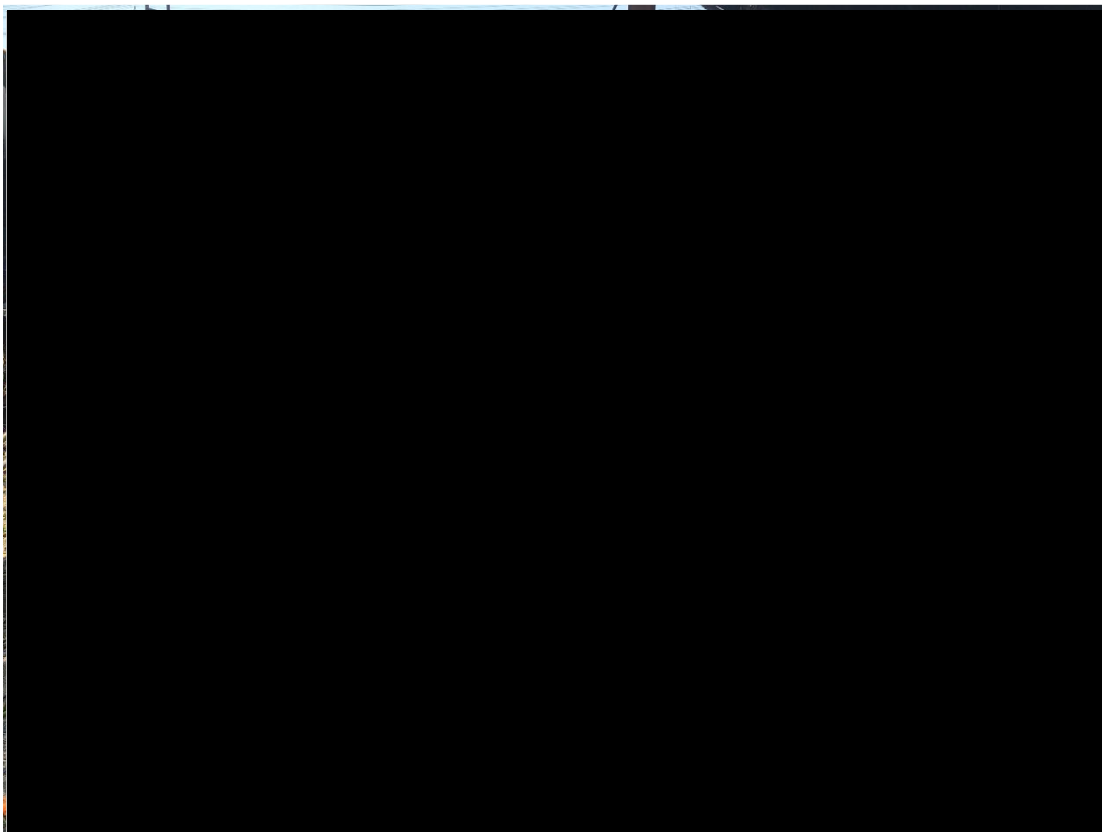


PHOTO #3 – Damaged vehicle.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 13

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☒ Minor ☐ Moderate ☐ Major ☐ Destroyed

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Damaged window (2'x3').

Ash deposit observed.

PHOTO #1 – Front view of property.

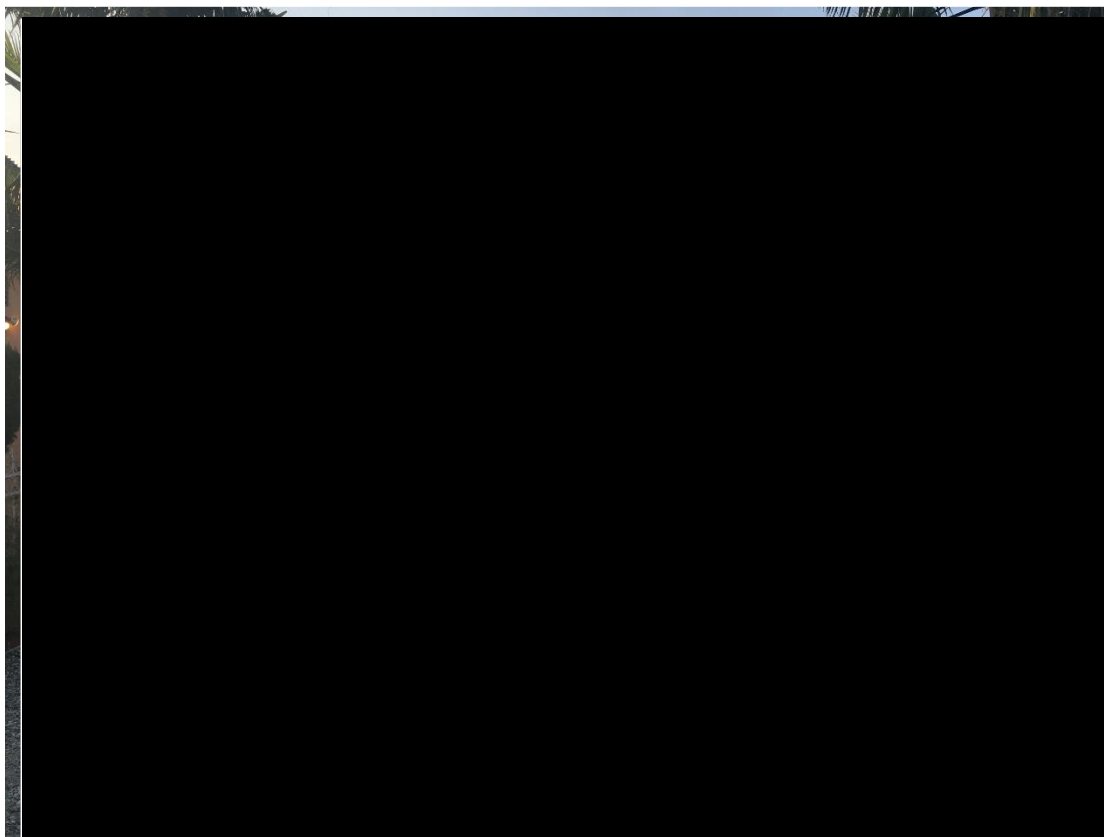


PHOTO #2 – Broken window.

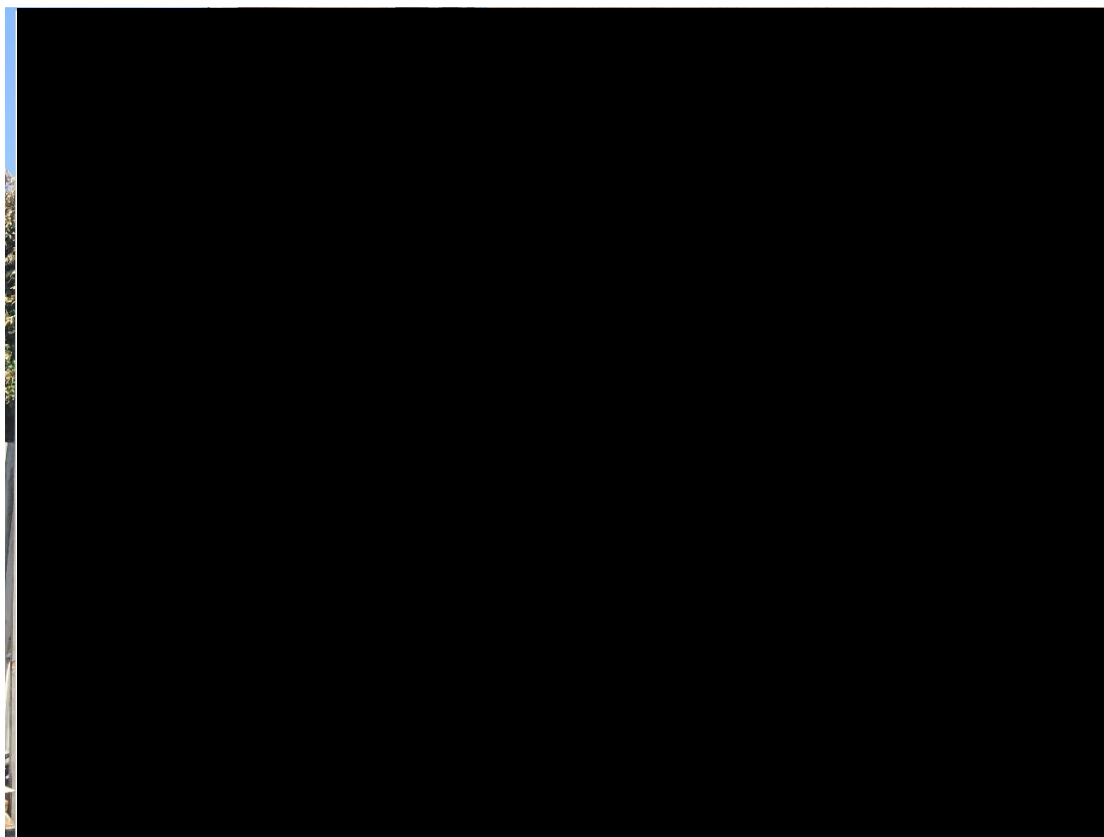
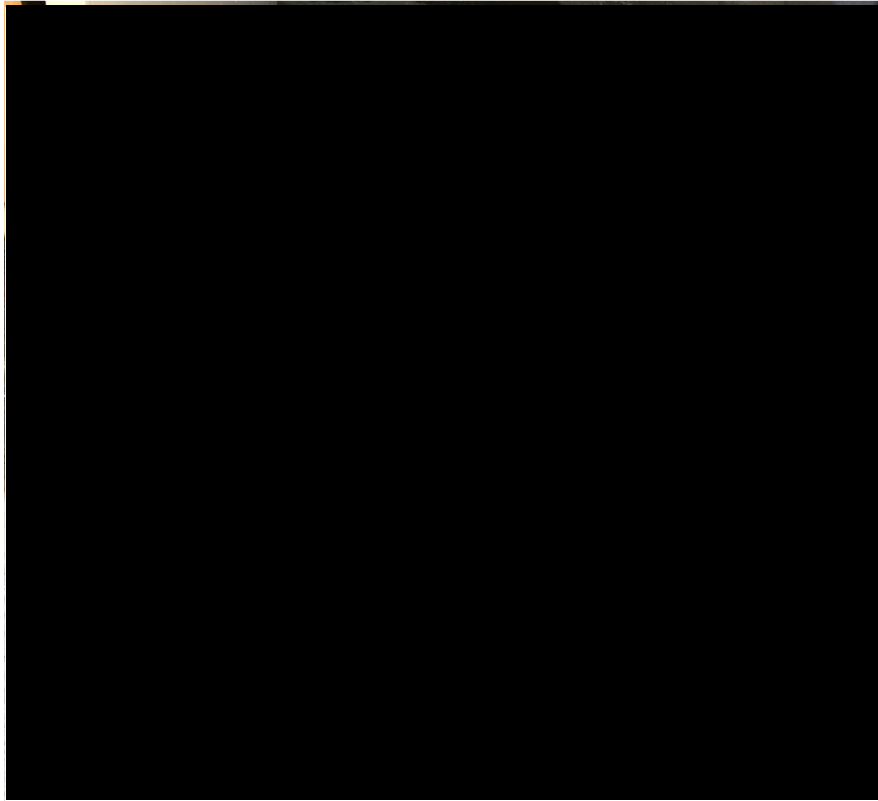


PHOTO #3 – Ash observed on ground at detached garage.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 14

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address:

APN Number:

Type of Structure: X Single Family Outbuilding/Other X Detached Garage
 Multi Family Mobile Home Commercial Vehicle

Extent of Damage: X Minor Moderate Major Destroyed

Exterior Construction Material: X Stucco Masonry Metal Wood siding Unknown

Roof Covering: X Asphalt Shingle Composition Tile Metal Wood Shake Unknown

Window Type: Single Pane X Double Pane Unknown

Eaves: X Exposed Enclosed Unknown

Vents: X Screened Unscreened Unknown

Deck: Attached Detached Unknown NA

Comments: Damaged/burned ceiling joist and fire suppression damage to drywall at rear converted carport.

Ash deposit observed, difficult to photograph.

PHOTO #1 – Front view of property.

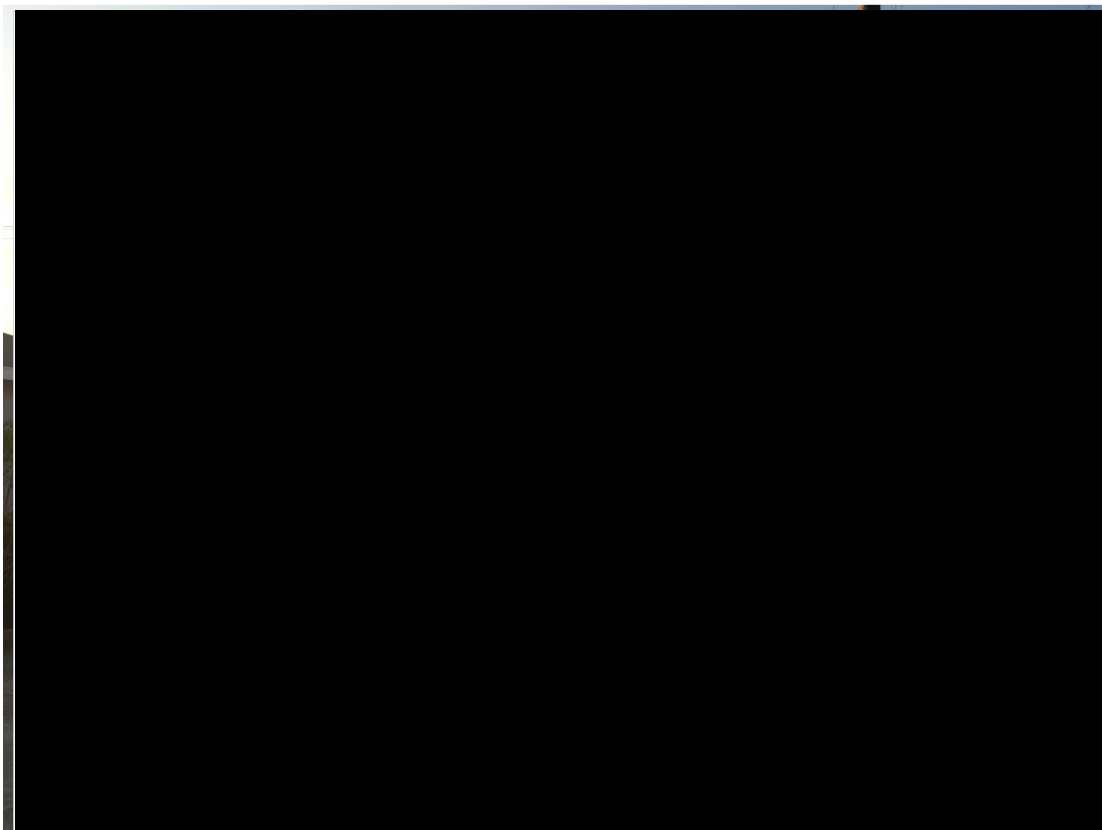


PHOTO #2 – Ceiling drywall damage.

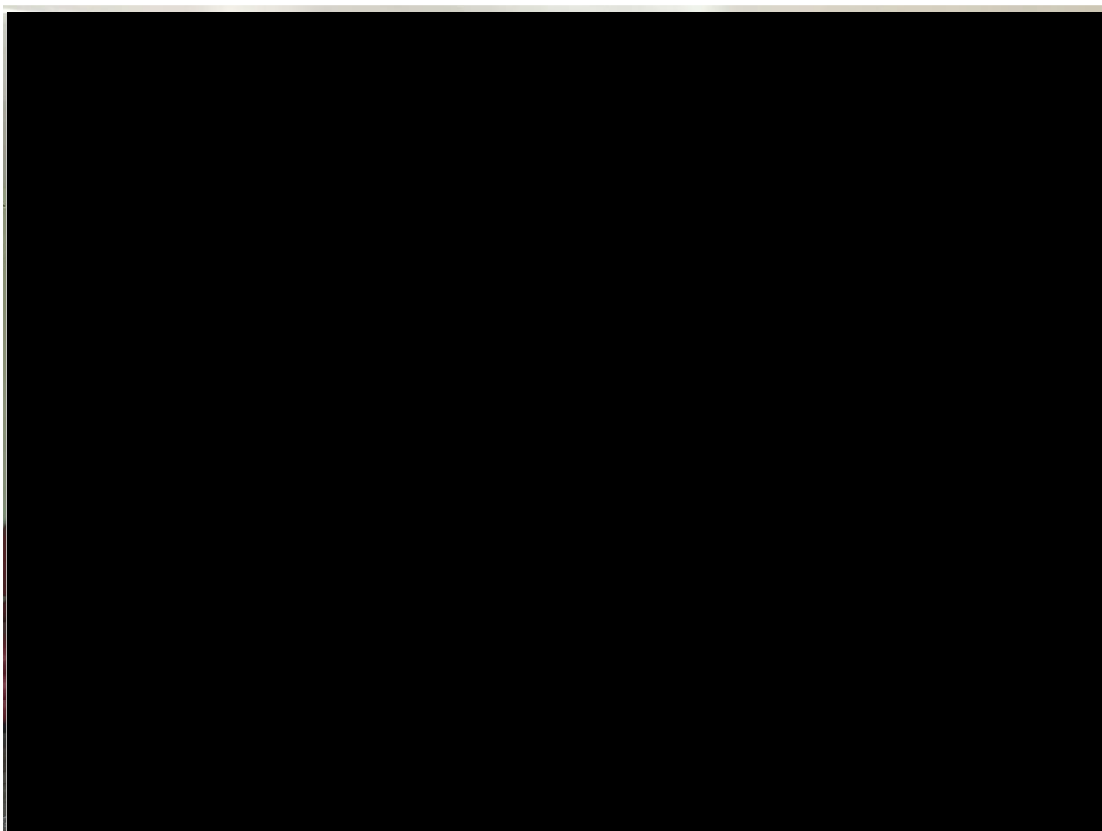
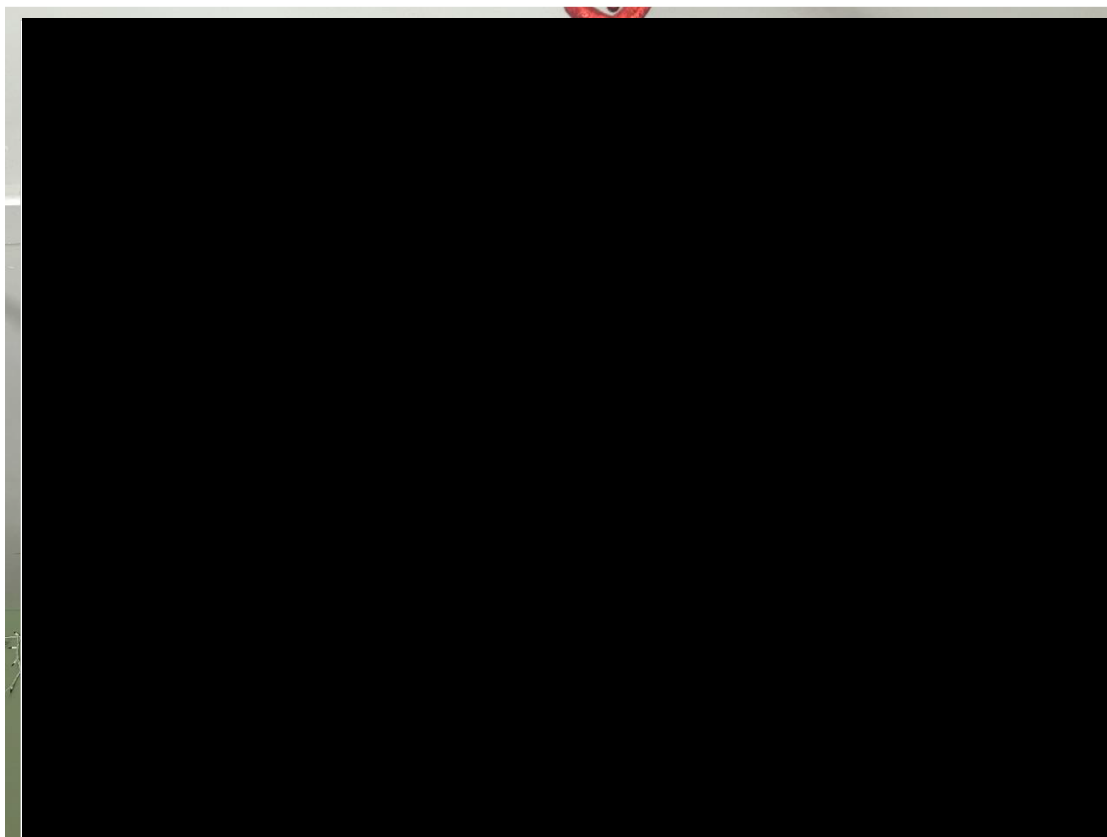


PHOTO #3 – Ceiling drywall and joist damage.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 15

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☐ Single Pane ☒ Double Pane ☐ Unknown

Eaves: ☐ Exposed ☒ Enclosed ☐ Unknown

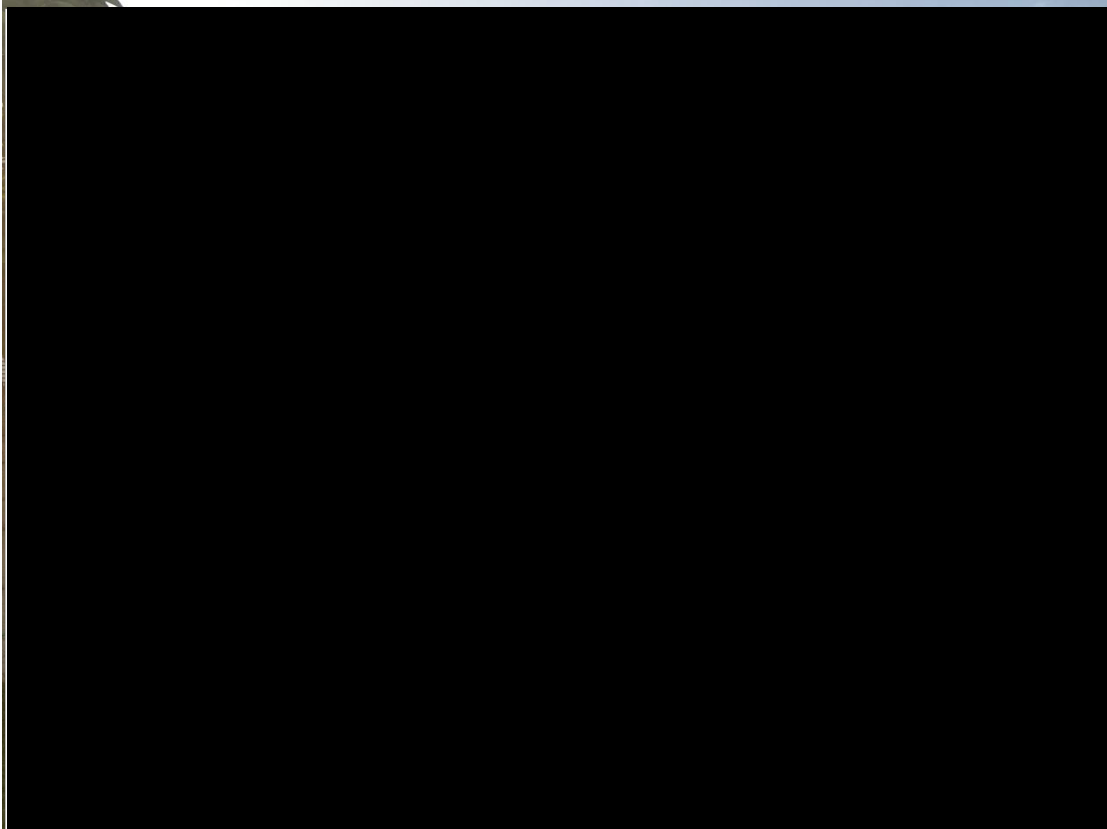
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Ash deposit observed, difficult to photograph.

No damage observed.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 16

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☐ Single Pane ☒ Double Pane ☐ Unknown

Eaves: ☐ Exposed ☒ Enclosed ☐ Unknown

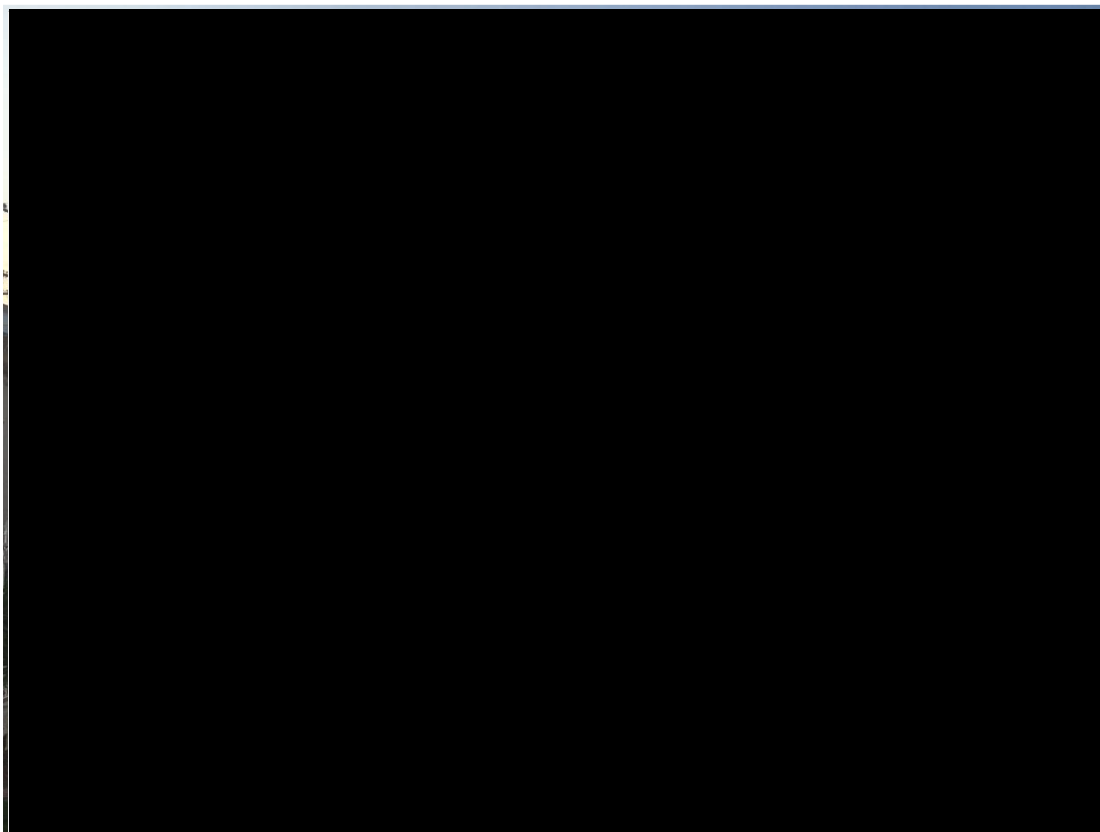
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: No damage observed.

Ash deposit observed, difficult to photograph.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 17

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☐ Single Pane ☒ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

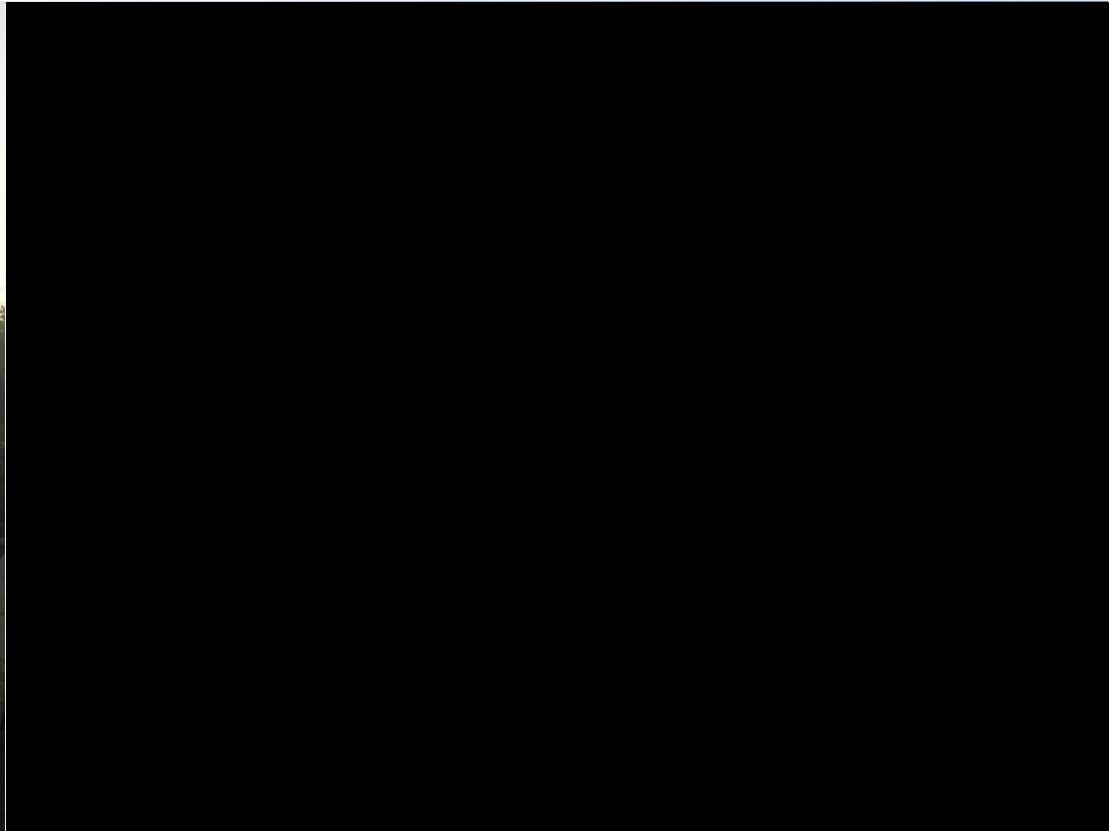
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Ash deposit observed, difficult to photograph.

No damage observed.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 18

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☒ Stucco ☐ Masonry ☐ Metal ☐ Wood siding ☐ Unknown

Roof Covering: ☐ Asphalt Shingle ☐ Composition ☒ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☐ Single Pane ☒ Double Pane ☐ Unknown

Eaves: ☐ Exposed ☐ Enclosed ☐ Unknown NA

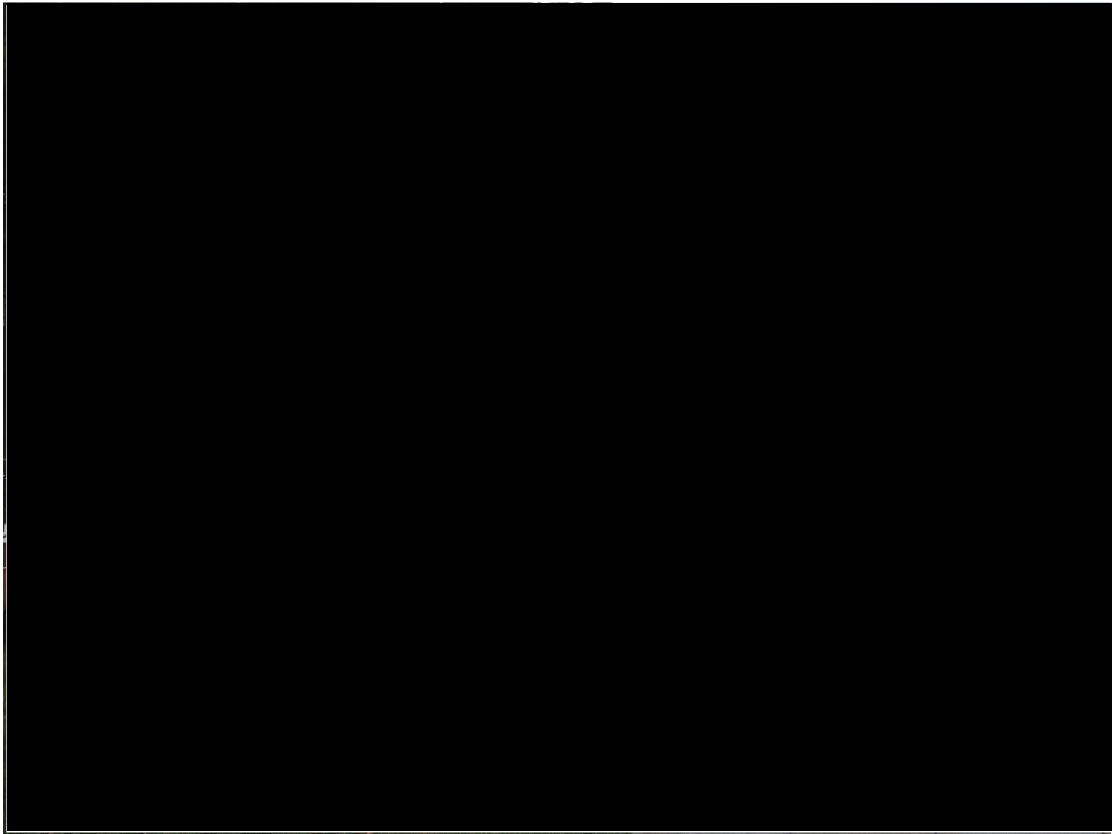
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

Comments: Ash deposit observed, difficult to photograph.

No damage observed.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE INCIDENT

Report # 19

FIRE IMPACT INSPECTION FORM

Inc. # CA-LAC-170501 Date of Inspection: 6-21-16 Incident Type: Chemical Fire

Property Address: [REDACTED]

APN Number: [REDACTED]

Type of Structure: ☒ Single Family ☐ Outbuilding/Other ☒ Detached Garage
☐ Multi Family ☐ Mobile Home ☐ Commercial ☐ Vehicle

Extent of Damage: ☐ Minor ☐ Moderate ☐ Major ☐ Destroyed NA

Exterior Construction Material: ☐ Stucco ☐ Masonry ☐ Metal ☒ Wood siding ☐ Unknown

Roof Covering: ☒ Asphalt Shingle ☐ Composition ☐ Tile ☐ Metal ☐ Wood Shake ☐ Unknown

Window Type: ☒ Single Pane ☐ Double Pane ☐ Unknown

Eaves: ☒ Exposed ☐ Enclosed ☐ Unknown

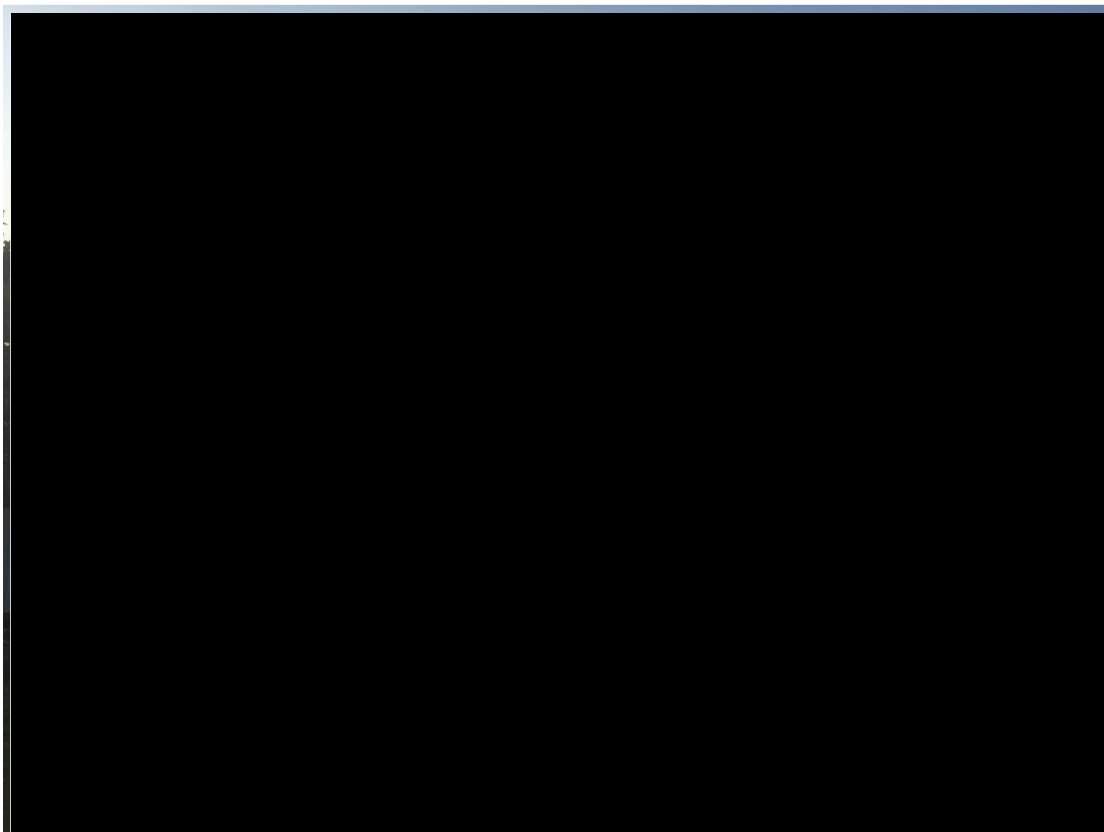
Vents: ☒ Screened ☐ Unscreened ☐ Unknown

Deck: ☐ Attached ☐ Detached ☐ Unknown NA

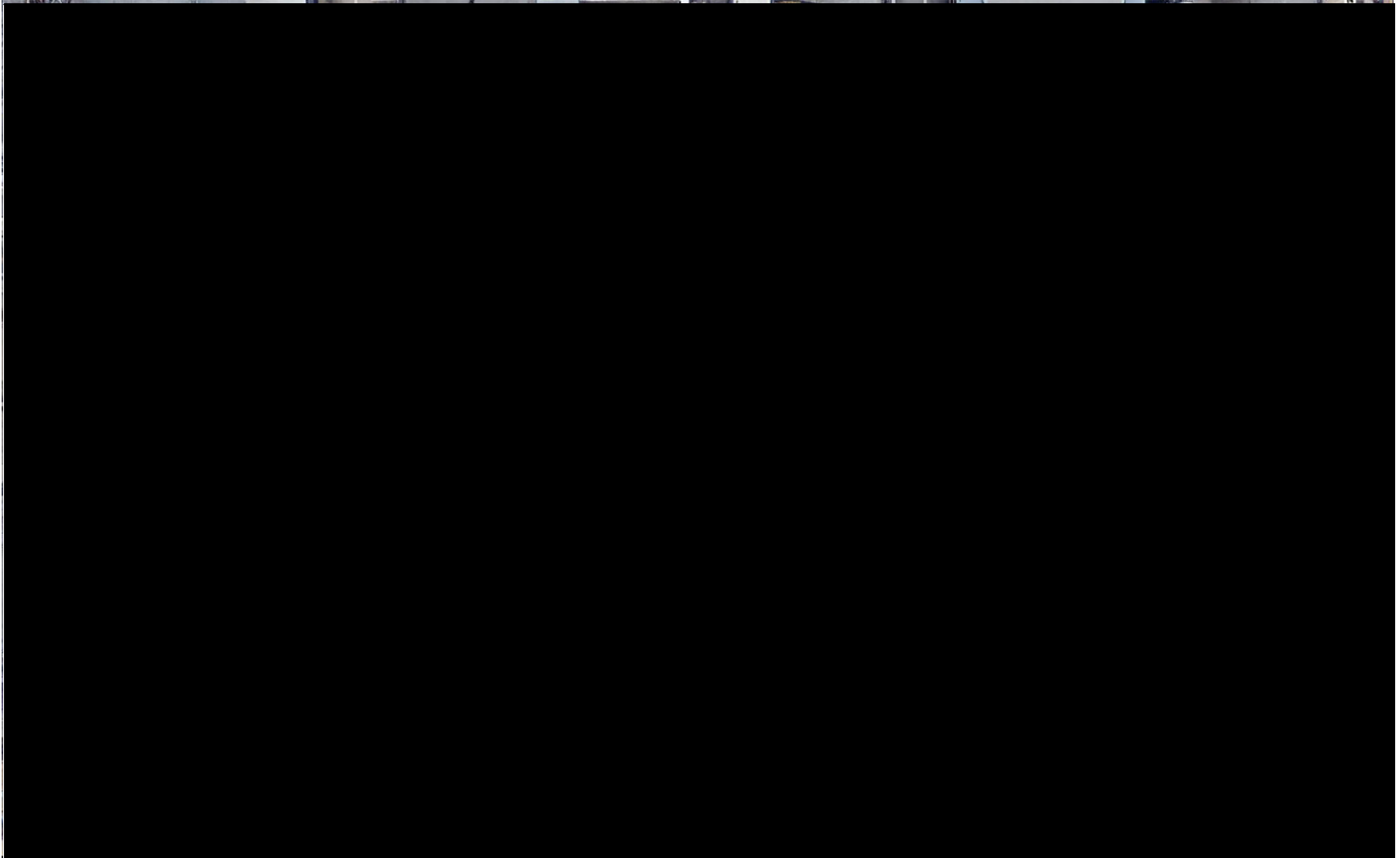
Comments: No damage observed.

Ash deposit observed, difficult to photograph.

PHOTO #1 – Front view of property.



FRUITLAND MAGNESIUM FIRE MAP



To: Wise, Robert[Wise.Robert@epa.gov]
Cc: Payne, Tony[Tony.Payne@fire.lacounty.gov]; Jones, Bill[Bill.Jones@fire.lacounty.gov]
From: Tresieras, Mario
Sent: Sat 6/18/2016 1:22:00 AM
Subject: Fwd: Fruitland Incident Cause Investigation
MAIL_RECEIVED: Sat 6/18/2016 1:22:07 AM

FYI

Sent from my iPhone

Begin forwarded message:

From: "Paulson, Kevin" <Kevin.Paulson@fire.lacounty.gov>
Date: June 17, 2016 at 1:55:47 PM PDT
To: "Enriquez, Jim" <Jim.Enriquez@fire.lacounty.gov>
Cc: "Cocker, Philip" <Philip.Cocker@fire.lacounty.gov>, "Ray, Thomas" <Thomas.Ray@fire.lacounty.gov>, "Gordon, Dan" <Dan.Gordon@fire.lacounty.gov>, "Smith, Glenn.D" <Glenn.D.Smith@fire.lacounty.gov>, "Paulson, Kevin" <Kevin.Paulson@fire.lacounty.gov>, "Tresieras, Mario" <Mario.Tresieras@fire.lacounty.gov>
Subject: Fruitland Incident Cause Investigation

Chief Enriquez, I was asked to make contact with the Fruitland IC by Chief Ray regarding the cause investigation. I met with Battalion Chief Jim Jones and EPA representative Rob Wise to offer our assistance. They had concerns with the status of the cause investigation. I expressed to them that this was a Sheriff's investigation, but would contact the sheriffs and check on the status of the investigation.

I called the Sheriff's Bomb/Arson unit, they gave me the contact information for Sargent Derek Yoshimo, he is the lead investigator on this fire. I called Sargent Yoshimo, he said that he and others investigators including Bomb/Arson, Sheriff's Haz Mat Unit and ATF agents worked on the scene yesterday. They believe they found the area of origin, but with the amount of overhaul that was required to extinguish the smoldering material destroyed any evidence. He and the other investigators agreed that exposing personnel to the toxic environment for a long periods of time was not worth the health risk. He believes that even with an extended investigation they would still not be able to determine an exact cause. He presented his findings to his Captain Jack Ewell and Commander Stedman and they agreed. I'm including the contact information for sheriff's personal.

Please contact me if you have any questions,

Kevin Paulson

Bomb/Arson Unit (323) 881-7500

Sargent Derek Yoshimo (661) 466-7879

Captain Jack Ewell (323) 881-7800

To: Wise, Robert[Wise.Robert@epa.gov]
Cc: Bald, Eric[Eric.Bald@fire.lacounty.gov]; Uroff, Walter[Walter.Uroff@fire.lacounty.gov]
From: Florez, Fernando
Sent: Fri 6/17/2016 3:23:06 PM
Subject: Panda International / Sokor Metals
MAIL_RECEIVED: Fri 6/17/2016 3:23:25 PM
[Panda International Trading Inc Summary.docx](#)

Morning Rob,

Eric Bald called me and asked to send you our Department's historical information of Panda and Sokor. Our Inspection Section also has a file folder of their past inspections. You can also contact Gloria Gamino, of DTSC, for her criminal case information.

Hope this helps.

Fernie.

Background:

Panda International Trading Inc. is a processor and broker of recyclable metals operating at 3570 Fruitland Ave., Maywood CA 90270. Panda International subleases part of their facility to Sokor Metals and both businesses share the same address. Sokor Metals is a metal extracting and reclamation facility that extracts heavy metals from electronic waste (circuit boards) for reclamation.

In 2007 Panda International Trading Co Inc. also known as Pan Metals Co, a scrap metal recycler and E-waste handler, notified the Department of Toxic Substances Control (DTSC) with the intent to handle CRT's but did not complete the process to obtain the necessary permits. In 2008 the facility was inspected by DTSC, violations were found and the owner was fined \$21,500.00 in penalties.

Compliance Inspections

A hazardous waste and hazardous materials inspection was conducted on 6/20/06. Hazardous materials and hazardous waste permits and notices of violations were issued at that time. Notices of violations were issued for taking waste oil to an auto parts store, open containers, no EPA ID #, no business plan, no CUPA permit, and lack of CRT notification. Partial compliance noted on 8/3/06. A routine hazardous waste and hazardous materials inspection was conducted on 4/8/11. Notices of violations were issued for no manifest copies for 3 years, forklift service recipets, training records for propane handling, current haz mat inventory and lack of CUPA permit. Hazardous waste violations abated on 6/13/11.

Search Warrant:

In May of 2013 DTSC went to the facility. The owner refused to speak to DTSC inspectors and denied them access. In June of 2013, DTSC returned to conduct an inspection and the owner again denied access at which point DTSC inspectors and staff from Public Works proceeded to take samples from the public access areas that included the sidewalk, storm drains and a background sample. All samples came back above the legal standard levels for hazardous waste (cadmium and lead).

On November 20, 2013, HHMD Investigators and Inspectors assisted the Department of Toxics Substance Control serve a search warrant at Panda International Trading. Several agencies were involved with the multi-agency task force search warrant (DTSC, HHMD, USEPA, AQMD, OSHA, County Sanitation, and the Sheriff's Department). The search warrant was served due to Panda International not allowing DTSC inspectors to conduct an inspection to verify the handling of e-waste.

DTSC and HHMD Investigators obtained soil and dust samples from inside the facility (ground and trash dumpster) and from the exterior city street side walks and curb. The samples resulted in high levels of lead and other heavy metals, which were above hazardous waste thresholds.

HHMD inspection staff conducted an inspection and issued a Notice of Violation to the President of Panda International Trading (David Pan).

On April 2016, the District Attorney's Office filed a criminal case on behalf of DTSC's Criminal Investigation Division.

Haz-Mat Incident 6/7/16:

On June 7, 2016, at approximately 3:00 p.m., HHMD Investigators Stan Townsend and Jim McCarron responded to 3570 Fruitland Ave., in Maywood in response to a request from the HHMD Emergency Response Team (Omoruyi and Wilkinson). Around 1:00 p.m. that day, Vernon Fire had responded to a report of smoke coming from the building and upon arrival found that it was not smoke, but fuming nitric acid. Vernon Fire turned it over to L.A. County Fire because it was on the border and within L.A. County's jurisdiction. Captain Mike Cash, and L.A. County Fire Engine 163 responded.

The Investigators observed a newly-constructed room inside the Panda building at 3570 Fruitland Ave. that contained barrels of strong acids (Nitric and Hydrochloric acid). Townsend spoke to the owner of Panda International, David Pan, who explained that he was renting a space to Ashoor Koriel (Sokor Metals), who was conducting a metal reclamation process of circuit boards. Koriel arrived at 3:45 p.m. and spoke to the Investigators. He said that he began the business in January of 2016.

Koriel told the Investigators that he began the business in January 2016, and that he was told by the City of Maywood that he did not need any permits. The Investigators told Koriel that he did indeed need permits from HHMD and other agencies. Koriel explained the process of reclaiming circuit boards by soaking them in 55 gallon barrels of acid for several days, then the acid is neutralized using sodium hydroxide to a pH of 9 or 10. The liquid is then run through a filter press. The resultant "filter cake" and liquids containing copper and tin is sold and shipped to China.

Koriel showed the Investigators the process area of his business and told the Investigators that the cause of the smoke was due to water getting into a barrel of 67% nitric acid and it began reacting causing the fumes (smoke) that prompted the Fire Department response. The Investigators did not observe an active smoke at the time of the investigation. However, the Investigators observed 10 empty bags (with minimal residue) marked as "sodium hydroxide", which were ordered removed from the trash bin.

Investigator Townsend issued a Notice of Violation to Ashoor Koriel of Sokor Metals based on the observations and findings.

On June 8, 2016, Investigator Townsend send an email referral to HHMD's Inspections Section, to inspect and permit Sokor Metals.

Haz-Mat Incident 6/14/16:

On June 14, 2016, at approximately 02:31 hours, HHMD Emergency Operations Section

responders Nosa Omoruyi, Nancy Parson, Terry Wilkinson, Teresa Zehdar, Milo Gonzalez, Eric Gonzalez and Mario Tresieras responded to a fire at 3570 Fruitland Ave.

HHMD Emergency Responders provided technical assistance to the Incident Commander regarding water reactive metals. Secured samples of waste water and ash for AQMD to analyze at their lab. Perimeter monitoring and assessment of public health impacts. Provided hazardous materials information from previous enforcement activity and coordinated with the responsible party on upcoming mitigation activity. Will be overseeing mitigation activity once the fire is out. Referrals to EPA, Public Works, Building and Safety, Public Health, and Fish & Game. Coordination of environmental agencies and personnel with ICP.

Agencies involved in this incident include; LA County Fire Department HazMat Task Force 105 & 43, Vernon Fire Department, DTSC, Los Angeles County Sheriff HazMat, USEPA, AQMD, Public Works, Building and Safety, Public Health, Fish and Game.

Approximately 300 individuals were evacuated from homes and businesses. Air quality issues for the public and fire personnel. Street closures at Fruitland from [REDACTED], on [REDACTED]. Run off waste water to storm drain system.

The fire continues to smolder at this time. Mitigation efforts continue by the Fire Department and HazMat units. Voluntary evacuation continues. Evaluation of run off waters, ash, and air quality continues to be monitored, sampled, and tested. Mitigation plans in development in conjunction with the responsible party to remove metals debris and acids.

At approximately 07:00, HHMD Investigator Eric Bald was notified of a fire in the 3500 block of Fruitland Ave., in the City of Maywood. Investigations Unit Supervisor Fernando Florez instructed Investigator Bald to determine the exact location of the fire and / or determine the extent of the involvement of Panda International Trading and Sokor Metals.

At approximately 08:15, Investigator Bald arrived at 3570 Fruitland Ave., from the east and made contact with Engine 57. The result of the preliminary reconnaissance revealed that the active fire location was 3570 Fruitland Ave., where Panda International and Sokor metals operated from the same property. Supervisor Florez assigned Investigator Stoute to assist as back up to Bald. During the subsequent hours contact was made with various agencies and the owners of Sokor and Panda. Interviews were conducted with representatives of Panda.

On June 15, 2016, Investigator Bald issued a Notice of Violation to Sokor Metals to discontinue the improper treatment of hazardous waste.

A follow up interview is scheduled for June 21, 2016, with Koriel Ashoor, the owner of Sokor Metals.

Photographs:



To: Tom Ray[Thomas.Ray@fire.lacounty.gov]
From: Wise, Robert
Sent: Wed 6/29/2016 8:57:53 PM
Subject: Fwd: Fruitland Incident Cause Investigation
MAIL_RECEIVED: Wed 6/29/2016 8:57:54 PM

Sent from my iPhone

Begin forwarded message:

From: "Tresierras, Mario" <Mario.Tresierras@fire.lacounty.gov>
Date: June 17, 2016 at 6:22:00 PM PDT
To: "wise.robert@epa.gov" <wise.robert@epa.gov>
Cc: "Payne, Tony" <Tony.Payne@fire.lacounty.gov>, "Jones, Bill" <Bill.Jones@fire.lacounty.gov>
Subject: Fwd: Fruitland Incident Cause Investigation

FYI

Sent from my iPhone

Begin forwarded message:

From: "Paulson, Kevin" <Kevin.Paulson@fire.lacounty.gov>
Date: June 17, 2016 at 1:55:47 PM PDT
To: "Enriquez, Jim" <Jim.Enriquez@fire.lacounty.gov>
Cc: "Cocker, Philip" <Philip.Cocker@fire.lacounty.gov>, "Ray, Thomas" <Thomas.Ray@fire.lacounty.gov>, "Gordon, Dan" <Dan.Gordon@fire.lacounty.gov>, "Smith, Glenn.D" <Glenn.D.Smith@fire.lacounty.gov>, "Paulson, Kevin" <Kevin.Paulson@fire.lacounty.gov>, "Tresierras, Mario" <Mario.Tresierras@fire.lacounty.gov>
Subject: Fruitland Incident Cause Investigation

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I called the Sheriff's Bomb/Arson unit, they gave me the contact information for

Sargent Derek Yoshimo, he is the lead investigator on this fire. I called Sargent Yoshimo , he said that he and others investigators including Bomb/Arson, Sheriff's Haz Mat Unit and ATF agents worked on the scene yesterday. They believe they found the area of origin, but with the amount of overhaul that was required to extinguish the smoldering material destroyed any evidence. He and the other investigators agreed that exposing personnel to the toxic environment for a long periods of time was not worth the health risk. He believes that even with an extended investigation they would still not be able to determine an exact cause. He presented his findings to his Captain Jack Ewell and Commander Stedman and they agreed. I'm including the contact information for sheriff's personal.

Please contact me if you have any questions,

Kevin Paulson

Bomb/Arson Unit (323) 881-7500

Sargent Derek Yoshimo (661) 466-7879

Captain Jack Ewell (323) 881-7800

To: Bill.Jones@fire.lacounty.gov[Bill.Jones@fire.lacounty.gov]
From: Wise, Robert
Sent: Thur 6/23/2016 4:29:33 AM
Subject: Fwd: Unified Command News Update
MAIL_RECEIVED: Thur 6/23/2016 4:29:33 AM

Sent from my iPhone

Begin forwarded message:

From: "Harris-Bishop, Rusty" <Harris-Bishop.Rusty@epa.gov>
Date: June 22, 2016 at 7:23:40 PM PDT
To: "Zito, Kelly" <ZITO.KELLY@EPA.GOV>, "Keener, Bill" <Keener.Bill@epa.gov>, "Allen, HarryL" <Allen.HarryL@epa.gov>, "Manzanilla, Enrique" <Manzanilla.Enrique@epa.gov>, "Wise, Robert" <Wise.Robert@epa.gov>
Cc: "Barkett, Bonnie" <Barkett.Bonnie@epa.gov>, "Calvino, Maria Soledad" <Calvino.Maria@epa.gov>, "COHEN, Deborra" <Cohen.Deborra@epa.gov>, "Ford, Margaret" <Ford.Margaret@epa.gov>, "Glenn, William" <Glenn.William@epa.gov>, "Henderson, Alita" <Henderson.Alita@epa.gov>, "Higuchi, Dean" <Higuchi.Dean@epa.gov>, "Holoubek, Helga" <Holoubek.Helga@epa.gov>, "Hudnall, Patricia" <Hudnall.Patricia@epa.gov>, "Huitric, Michele" <Huitric.Michele@epa.gov>, "Johnson, Ivry" <Johnson.Ivry@epa.gov>, "Maier, Brent" <Maier.Brent@epa.gov>, "Mogharabi, Nahal" <MOGHARABI.NAHAL@EPA.GOV>, "PerezSullivan, Margot" <PerezSullivan.Margot@epa.gov>, "Pratt, Kristen" <Pratt.Kristen@epa.gov>, "Schmidt, David" <Schmidt.David@epa.gov>, "Schwenk, David" <Schwenk.David@epa.gov>, "SHOJI, KERRY" <SHOJI.KERRY@EPA.GOV>, "Yogi, David" <Yogi.David@epa.gov>, "hafiz, carlin" <Hafiz.Carlin@epa.gov>, "LEONIDO-JOHN, STEVEN" <Leonido-John.Steven@epa.gov>
Subject: Unified Command News Update

This news update for the Maywood Fruitland Magnesium Fire Incident Response just went out.



For Immediate Release: June 22, 2016

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Unified Command News Update: Fruitland Magnesium Fire Incident (Maywood) Response Update 6/22/16

MAYWOOD, CALIF. – The Unified Command for the Fruitland Magnesium Fire Incident in Maywood, Los Angeles County, Calif., continues response operations and assessment of hazardous materials in the aftermath of the fire that began on June 14, 2016. The Unified Command is comprised of representatives from the U.S. Environmental Protection Agency (EPA), the Los Angeles County Department of Public Health, and the Los Angeles County Fire Department Health Hazardous Materials Division (HHMD).

Status of Response:

The Unified Command met with evacuated residents on June 21, 2016 to provide information regarding the response to the fire and answer questions about their continued evacuation. More than 100 community members attended the meeting. Attendees received information about additional resources that may be available to evacuees from the American Red Cross, the Department of Social Services, and other entities. Responders are meeting with residents individually at their homes to gain access so that residents may retrieve personal items, and air sampling equipment can be placed in the home. Confirming that indoor air quality in each home is suitable for occupants is the first step in the cleanup process.

Current response activities:

- On the north side of [REDACTED], a total of 44 households remain evacuated pending safe occupancy determinations by LA County health officials. These evacuated properties include a mix of single family homes and apartment units.

- LA County is continuing to work with evacuated residents on providing short term housing and other economic assistance.
- South Coast Air Quality Management District and EPA collected air samples during the firefighting operations and documented trace levels of metals that pose a minimal health threat. EPA is continuing air surveillance operations and documenting background levels in air.
- EPA collected ash samples near the facility; preliminary data received to date, as expected, show concentrations of metals, including copper and zinc. The extent and volume of potential contamination at the evacuated residences, as well as any threats to public health, have not yet been determined.
- At evacuated residential properties adjacent to the facility, EPA collected soil samples and indoor air samples. Results are still pending.
- EPA has cleaned the sidewalks and pavement on the following streets: Fruitland Ave. [REDACTED]
[REDACTED] LA County Fire cleaned the rooftops, driveways, and the pavement on [REDACTED].
- Cars parked on [REDACTED] were cleaned of ash deposited on them. Car owners have been provided a voucher to take to a car wash for a more thorough cleaning.
- EPA is preparing access roads into the burned facility to investigate abandoned chemicals and an unknown number of drums. The burned debris has been treated with a sealant to prevent any off-site migration of contaminants.
- LA County Fire and the CA Department of Toxic Substances Control are investigating the two companies operating at the site of the fire. The cause of the fire is being investigated by the LA County Sheriff's Department.



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